SEQUENCE LISTING

<110> Donna T. Ward
      Andrew T. Watt

<120> ANTISENSE MODULATION OF EIF2C1 EXPRESSION

<130> RTS-0236

<160> 88

<210> 1
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 1
tccgtcatcg ctcctcaggg   20

<210> 2
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 2
atgcattctg cccccaagga   20

<210> 3
<211> 7478
<212> DNA
<213> Homo sapiens

<220>

<220>
<221> CDS
<222> (214)...(2787)

<400> 3
```
actggcagct ggccgggcgc tcgcagtggg agctgctgca ggctccgcgg cggcggcaac      60
ggaggctgcg ggggcggcgg cgcgagcggc cgggcttggt aggggagccg agcccggccc     120
gggatcccga gcagcgagag tgtggggtac ctaggcccct cacgctggac ttcacagtct     180
ccgggccgcc tgacctccgc acgggtatat ggg atg gaa gcg gga ccc tcg gga     234
                                     Met Glu Ala Gly Pro Ser Gly
                                      1               5


gca gct gcg ggc gct tac ctg ccc ccc ctg cag cag gtg ttc cag gca     282
Ala Ala Ala Gly Ala Tyr Leu Pro Pro Leu Gln Gln Val Phe Gln Ala
         10                  15                  20


cct cgc cgg cct ggc att ggc act gtg ggg aaa cca atc aag ctc ctg     330
Pro Arg Arg Pro Gly Ile Gly Thr Val Gly Lys Pro Ile Lys Leu Leu
         25                  30                  35


gcc aat tac ttt gag gtg gac atc cct aag atc gac gtg tac cac tac     378
Ala Asn Tyr Phe Glu Val Asp Ile Pro Lys Ile Asp Val Tyr His Tyr
40                  45                  50                  55


gag gtg gac atc aag ccg gat aag tgt ccc cgt aga gtc aac cgg gaa     426
Glu Val Asp Ile Lys Pro Asp Lys Cys Pro Arg Arg Val Asn Arg Glu
                     60                  65                  70


gtg gtg gaa tac atg gtc cag cat ttc aag cct cag atc ttt ggt gat     474
Val Val Glu Tyr Met Val Gln His Phe Lys Pro Gln Ile Phe Gly Asp
                 75                  80                  85


cgc aag cct gtg tat gat gga aag aag aac att tac act gtc aca gca     522
Arg Lys Pro Val Tyr Asp Gly Lys Lys Asn Ile Tyr Thr Val Thr Ala
         90                  95                  100


ctg ccc att ggc aac gaa cgg gtc gac ttt gag gtg aca atc cct ggg     570
Leu Pro Ile Gly Asn Glu Arg Val Asp Phe Glu Val Thr Ile Pro Gly
         105                 110                 115


gaa ggg aag gat cga atc ttt aag gtc tcc atc aag tgg cta gcc att     618
```

```
Glu Gly Lys Asp Arg Ile Phe Lys Val Ser Ile Lys Trp Leu Ala Ile
120              125              130              135
```

```
gtg agc tgg cga atg ctg cat gag gcc ctg gtc agc ggc cag atc cct        666
Val Ser Trp Arg Met Leu His Glu Ala Leu Val Ser Gly Gln Ile Pro
                140              145              150
```

```
gtt ccc ttg gag tct gtg caa gcc ctg gat gtg gcc atg agg cac ctg        714
Val Pro Leu Glu Ser Val Gln Ala Leu Asp Val Ala Met Arg His Leu
            155              160              165
```

```
gca tcc atg agg tac acc cct gtg ggc cgc tcc ttc ttc tca ccg cct        762
Ala Ser Met Arg Tyr Thr Pro Val Gly Arg Ser Phe Phe Ser Pro Pro
            170              175              180
```

```
gag ggc tac tac cac ccg ctg ggg ggt ggg cgc gaa gtc tgg ttc ggc        810
Glu Gly Tyr Tyr His Pro Leu Gly Gly Gly Arg Glu Val Trp Phe Gly
        185              190              195
```

```
ttt cac cag tct gtg cgc cct gcc atg tgg aag atg atg ctc aac att        858
Phe His Gln Ser Val Arg Pro Ala Met Trp Lys Met Met Leu Asn Ile
200              205              210              215
```

```
gat gtc tca gcc act gcc ttt tat aag gca cag cca gtg att gag ttc        906
Asp Val Ser Ala Thr Ala Phe Tyr Lys Ala Gln Pro Val Ile Glu Phe
                220              225              230
```

```
atg tgt gag gtg ctg gac atc agg aac ata gat gag cag ccc aag ccc        954
Met Cys Glu Val Leu Asp Ile Arg Asn Ile Asp Glu Gln Pro Lys Pro
            235              240              245
```

```
ctc acg gac tct cag cgc gtt cgc ttc acc aag gag atc aag ggc ctg       1002
Leu Thr Asp Ser Gln Arg Val Arg Phe Thr Lys Glu Ile Lys Gly Leu
            250              255              260
```

```
aag gtg gaa gtc acc cac tgt gga cag atg aag agg aag tac cgc gtg       1050
Lys Val Glu Val Thr His Cys Gly Gln Met Lys Arg Lys Tyr Arg Val
            265              270              275
```

```
tgt aat gtt acc cgt cgc cct gct agc cat cag aca ttc ccc tta cag       1098
Cys Asn Val Thr Arg Arg Pro Ala Ser His Gln Thr Phe Pro Leu Gln
280              285              290              295
```

```
ctg gag agt gga cag act gtg gag tgc aca gtg gca cag tat ttc aag       1146
```

Leu Glu Ser Gly Gln Thr Val Glu Cys Thr Val Ala Gln Tyr Phe Lys
          300   305   310

cag aaa tat aac ctt cag ctc aag tat ccc cat ctg ccc tgc cta caa   1194
Gln Lys Tyr Asn Leu Gln Leu Lys Tyr Pro His Leu Pro Cys Leu Gln
              315   320   325

gtt ggc cag gaa caa aag cat acc tac ctt ccc cta gag gtc tgt aac   1242
Val Gly Gln Glu Gln Lys His Thr Tyr Leu Pro Leu Glu Val Cys Asn
          330   335   340

att gtg gct ggg cag cgc tgt att aag aag ctg acc gac aac cag acc   1290
Ile Val Ala Gly Gln Arg Cys Ile Lys Lys Leu Thr Asp Asn Gln Thr
          345   350   355

tcg acc atg ata aag gcc aca gct aga tcc gct cca gac aga cag gag   1338
Ser Thr Met Ile Lys Ala Thr Ala Arg Ser Ala Pro Asp Arg Gln Glu
360   365   370   375

gag atc agt cgc ctg atg aag aat gcc agc tac aac tta gat ccc tac   1386
Glu Ile Ser Arg Leu Met Lys Asn Ala Ser Tyr Asn Leu Asp Pro Tyr
              380   385   390

atc cag gaa ttt ggg atc aaa gtg aag gat gac atg acg gag gtg aca   1434
Ile Gln Glu Phe Gly Ile Lys Val Lys Asp Asp Met Thr Glu Val Thr
              395   400   405

ggg cga gtg ctg ccg gcg ccc atc ttg cag tac ggc ggc cgg aac cgg   1482
Gly Arg Val Leu Pro Ala Pro Ile Leu Gln Tyr Gly Gly Arg Asn Arg
          410   415   420

gcc att gcc aca ccc aat cag ggt gtc tgg gac atg cgg ggg aaa cag   1530
Ala Ile Ala Thr Pro Asn Gln Gly Val Trp Asp Met Arg Gly Lys Gln
          425   430   435

ttc tac aat ggg att gag atc aaa gtc tgg gcc atc gcc tgc ttc gca   1578
Phe Tyr Asn Gly Ile Glu Ile Lys Val Trp Ala Ile Ala Cys Phe Ala
440   445   450   455

ccc caa aaa cag tgt cga gaa gag gtg ctc aag aac ttc aca gac cag   1626
Pro Gln Lys Gln Cys Arg Glu Glu Val Leu Lys Asn Phe Thr Asp Gln
              460   465   470

ctg cgg aag att tcc aag gat gcg ggg atg cct atc cag ggt caa cct   1674

```
Leu Arg Lys Ile Ser Lys Asp Ala Gly Met Pro Ile Gln Gly Gln Pro
            475                 480             485
```

```
tgt ttc tgc aaa tat gca cag ggg gca gac agc gtg gag cct atg ttc        1722
Cys Phe Cys Lys Tyr Ala Gln Gly Ala Asp Ser Val Glu Pro Met Phe
        490                 495             500
```

```
cgg cat ctc aag aac acc tac tca ggg ctg cag ctc att att gtc atc        1770
Arg His Leu Lys Asn Thr Tyr Ser Gly Leu Gln Leu Ile Ile Val Ile
        505                 510             515
```

```
ctg cca ggg aag acg ccg gtg tat gct gag gtg aaa cgt gtc gga gat        1818
Leu Pro Gly Lys Thr Pro Val Tyr Ala Glu Val Lys Arg Val Gly Asp
520             525             530                 535
```

```
aca ctc ttg gga atg gct acg cag tgt gtg cag gtg aag aac gtg gtc        1866
Thr Leu Leu Gly Met Ala Thr Gln Cys Val Gln Val Lys Asn Val Val
            540                 545             550
```

```
aag acc tca cct cag act ctg tcc aac ctc tgc ctc aag atc aat gtc        1914
Lys Thr Ser Pro Gln Thr Leu Ser Asn Leu Cys Leu Lys Ile Asn Val
            555                 560             565
```

```
aaa ctt ggt ggc att aac aac atc cta gtc cca cac cag cgc tct gcc        1962
Lys Leu Gly Gly Ile Asn Asn Ile Leu Val Pro His Gln Arg Ser Ala
            570                 575             580
```

```
gtt ttt caa cag cca gtg ata ttc ctg gga gca gat gtt aca cac ccc        2010
Val Phe Gln Gln Pro Val Ile Phe Leu Gly Ala Asp Val Thr His Pro
        585                 590             595
```

```
cca gca ggg gat ggg aaa aaa cct tct atc aca gca gtg gta ggc agt        2058
Pro Ala Gly Asp Gly Lys Lys Pro Ser Ile Thr Ala Val Val Gly Ser
600             605             610                 615
```

```
atg gat gcc cac ccc agc cga tac tgt gct act gtg cgg gta cag cga        2106
Met Asp Ala His Pro Ser Arg Tyr Cys Ala Thr Val Arg Val Gln Arg
                620                 625             630
```

```
cca cgg caa gag atc att gaa gac ttg tcc tac atg gtg cgt gag ctc        2154
Pro Arg Gln Glu Ile Ile Glu Asp Leu Ser Tyr Met Val Arg Glu Leu
            635                 640             645
```

```
ctc atc caa ttc tac aag tcc acc cgt ttc aag cct acc cgc atc atc        2202
```

```
Leu Ile Gln Phe Tyr Lys Ser Thr Arg Phe Lys Pro Thr Arg Ile Ile
        650             655             660
```

```
ttc tac cga gat ggg gtg cct gaa ggc cag cta ccc cag ata ctc cat    2250
Phe Tyr Arg Asp Gly Val Pro Glu Gly Gln Leu Pro Gln Ile Leu His
        665             670             675
```

```
tat gag cta ctg gcc att cgt gat gcc tgc atc aaa ctg gaa aag gac    2298
Tyr Glu Leu Leu Ala Ile Arg Asp Ala Cys Ile Lys Leu Glu Lys Asp
680             685             690             695
```

```
tac cag cct ggg atc act tat att gtg gtg cag aaa cgc cat cac acc    2346
Tyr Gln Pro Gly Ile Thr Tyr Ile Val Val Gln Lys Arg His His Thr
            700             705             710
```

```
cgc ctt ttc tgt gct gac aag aat gag cga att ggg aag agt ggt aac    2394
Arg Leu Phe Cys Ala Asp Lys Asn Glu Arg Ile Gly Lys Ser Gly Asn
            715             720             725
```

```
atc cca gct ggg acc aca gtg gac acc aac atc acc cac cca ttt gag    2442
Ile Pro Ala Gly Thr Thr Val Asp Thr Asn Ile Thr His Pro Phe Glu
            730             735             740
```

```
ttt gac ttc tat ctg tgc agc cac gca ggc atc cag ggc acc agc cga    2490
Phe Asp Phe Tyr Leu Cys Ser His Ala Gly Ile Gln Gly Thr Ser Arg
            745             750             755
```

```
cca tcc cat tac tat gtt ctt tgg gat gac aac cgt ttc aca gca gat    2538
Pro Ser His Tyr Tyr Val Leu Trp Asp Asp Asn Arg Phe Thr Ala Asp
760             765             770             775
```

```
gag ctc cag atc ctg acg tac cag ctg tgc cac act tac gta cga tgc    2586
Glu Leu Gln Ile Leu Thr Tyr Gln Leu Cys His Thr Tyr Val Arg Cys
            780             785             790
```

```
aca cgc tct gtc tct atc cca gca cct gcc tac tat gcc cgc ctg gtg    2634
Thr Arg Ser Val Ser Ile Pro Ala Pro Ala Tyr Tyr Ala Arg Leu Val
            795             800             805
```

```
gct ttc cgg gca cga tac cac ctg gtg gac aag gag cat gac agt gga    2682
Ala Phe Arg Ala Arg Tyr His Leu Val Asp Lys Glu His Asp Ser Gly
            810             815             820
```

```
gag ggg agc cac ata tcg ggg cag agc aat ggg cgg gac ccc cag gcc    2730
```

```
Glu Gly Ser His Ile Ser Gly Gln Ser Asn Gly Arg Asp Pro Gln Ala
    825             830             835


ctg gcc aaa gcc gtg cag gtt cac cag gat act ctg cgc acc atg tac   2778
Leu Ala Lys Ala Val Gln Val His Gln Asp Thr Leu Arg Thr Met Tyr
840             845             850             855


ttc gct tga aggcagaacg ctgttacctc actggataga agaaagcttt ccaagcccca  2837
Phe Ala
```


```
ggagctgtgc cacccaaatc cagaggaagc aaggaggagg gaggtggggt agggaggagt   2897
gtaggatgcc ttgtttcctt ctatagaggt ggtgtaagag tggggaacag ggccagcaag   2957
acagaccacc agccagaaat ctctgatatc aacctcatgt cccccacccc tcaccccatc   3017
ttgtcacatc tggccctgac cccactggac caaaaggggc agcactggtg cccaccatac   3077
acacaggtgt ctcatgtgac tcacagtgct aaagactcat gcttgacagc ttggtaaggt   3137
caactctgta gccctgcaga caaaagctgg ttaggtttgg gtttgatact ttagatggga   3197
aagtgagggg cttgagaaag tgggtgggag gagggaagga tttttttagga gccttaatca   3257
gaaaaggact agatttgttt aagaagaaaa atgaaaccag acccagatca atattttagg   3317
atactagatg ttttaatggg ttcagaatcc agtttgtagg aagatttttt aatggttttg   3377
gttgctcctc ccccagctgc cacccccac cttacccctta ttcctctctg tccacatttt    3437
ctgccccacc ttacttctcc tccctgacag acatccagcc cctagtaata cttaaggcac   3497
tatggcactt agctttgaag tgacacgacc ctgtcttcct tccgcccgct ggtgggtaac   3557
cagtgccttc cctgtaacgg taatgctgca gaactgcaac cttttgtacc tttctttggg   3617
gaatggggtg ggggtgggag aggaggtaga tggggaagaa ataccccaga cccaacaaac   3677
ctccagccag aaagccagct attttgcatt tgaaggaatt gacttcctca ttcattgagc   3737
ttttttaaaag atcacaacct caagatggtt aaaatccatt gacatttgca ctttcaaaca   3797
tgacaagtct cggagctgct gagatgacag gccctggcc tttccactta tgcctcctttt    3857
tctccttatt cctcctacct cccgccccgc ccaggtctgg agttactttc atagcatttt   3917
tcactcttgg cttcttttct cccttgatgg tcaagtctct tatgtttcaa tatttcttaa   3977
ctggggtgtc ttataacaaa aaactcttag gtctaaaatg agaaaaaaga gagaaaacaa   4037
aatgttattt ttataccata acttgagtgt attgccaaaa tttggaaatc cttcccatgc   4097
ctgatgagtt tatatcccag aaacattgag ccatcagaat gaactgtgta cctgatttgt   4157
tctctgacct ggctaggtag ggagggggtg gttatcgccc caagatgggg tccaggctcc   4217
atccttcctc tgtgcagata atacctttt cttgctatag cctccctcct ctgcactgtc    4277
ctgcactctt tcttgcaagt gcatcttttt ccttcccctg gactgtcctc tgaccctttg   4337
gctcatccta gattgcagtg tgtcctgtgg acaggctggg gaattttgct gctccctatt   4397
gcttctgttt acaaaaatga attttttcctg gtttcccact agggcatgtg ggtgggtggc   4457
atggactttt ttttttttttt tttttttgtct tgagacatgg ggtttggctg tcttgcagga   4517
ctggagaagg tggtggttct agcttggtct ctgttggcct tgaagcaagc atcccccctg   4577
ccctttttcc ttgactgttc attttttttcc tgccccactg cttgggatgg ggagttgcaa   4637
cttcagtgtg gaatttcctc tttgaggagc ctgggcttgg atctatcctg atctggtgat   4697
gaagccatga ttactttaga cctagcccag gcttggaggc cagctggagg aagaagggtc   4757
taaatcctgg cctgtagagt tagaactacc atttcctccc cttagctgcc cttgtatgac   4817
```

```
ccggatttgc tatgcaaaac aatctatccc aggttctgtt ctggttggct acattgttca 4877
gcaactcaca aaacgtagca caaacattca ttatggagaa agcatcagga ctgttgagta 4937
actcctcctt tactttttc ctgctggcta cagcatgggg tgccctatag gcacaagccc 4997
agctgaagaa cagaatggag ggctctggga ggaggcagct cactggagag cctacattcc 5057
ttacacaagt gcctaaagag agtgatgcta acactccatc tgccctgtcc attgccttca 5117
tatacagtct acttcgtgtt ctgtcaccct ttggggaggg gagttctcct gggacagtgg 5177
gctctgcatg ttctccactt ggatacattt tggggctagg atcaggcac tattcctgga 5237
gggtccagtc attcaccagc atttgcaaat gtccataggg agcaggtggc agcctctact 5297
cccagcaaca agtttgtgtt ctctcctttt ctctctttgc ctcactctct ccagttggtt 5357
ttcagctggg gcttgaaatg catttttagc cctttgacgt ggcttatgcc attcaagaaa 5417
taaaaagcaa gagaatcagc tttgggcaat gacaagaaat gagttcttac tctgattttt 5477
ttgtaaaaag ataattttg agacttgaaa aatacccga ccttgagatt attcctgttt 5537
gaaaggtggt gcatgcagat ggagaagtgg tgttggcagc aagctttggc tcatgtggat 5597
ttggtttaag tggtgcttct tacccaagct tcaaggaagt gcttggggga cccccagcct 5657
catcctctta gttgggtctc ttgttccctt tgtaccactg ttttgccttc cttttcctct 5717
tctctctttg cctggcttcc tttcccttt cttctattca ctctgcttgc ttgctggccg 5777
gcctgcctgc ctgcctgcct gcctgcctgc ctgtctgcct atgtgatgat gaaatctctg 5837
catggctgca atgatcccac tgttagctgg cagggtcagg cttagctcct tgactgcaga 5897
agaccaagaa cctgttcccc aagcccagag atgtccacct gggctggact gccctcaagc 5957
ttatactaga gaagagcaac tgacctgccc aacttgtgtg aagtcaggag ggtttctggc 6017
attttccaca cctgtccact ccttggagct ggtttctctc attgcttttt ctaaatctgg 6077
ttcttttct ctttacctgg ggcctggctt ttctgagatt gtcttagggt tgagctattt 6137
gggtatcctg ggtttgagtg ttaggggatg gacataaagg aaaaagagtg atgagaagag 6197
aatggagaga atttgaataa aaggtgggaa aggagagcac tgttctttga ttgtttatcc 6257
agtccaacct gatccattag ggatcgaggt gctacactgg cctccaggga taagcctggg 6317
gctactgttg ctgggaactt aggcttaaca taaagccgaa gaaggtacct agaaatttga 6377
aacttcccta aaaagctcct aatgcccacc tgctagatag cttctctgtg gcctcctatt 6437
tagctaagca gcagtgtttt tggatacttt ttttttctgt ttgtgaataa ggccagcact 6497
caagatgggc agccaagggt gcactgacta ttagctggcc cataggatat ctgtaaggct 6557
ggtgggacag ttttggacct ggaatcatgt gtaactaaca aggttggacg tttcttcccc 6617
atcagggtag aaaaatcatc tcaaactagc caaaaggcag ttttggaaac tacattgggg 6677
gacgttattt ttatttatat atggggccta ggccaatcca ggatggtagc tggaatacct 6737
tccttcttaa aatctgatca tggcagggat atgcagggca cttttttacta tttggccttc 6797
taagcagatt gggaaggagg tattttctgg ttttcgcttt cctccgactt aataggactt 6857
gccttctccc tgggcaggga gagaggctgg gttggtgctc tcccttactc tactcatact 6917
gacttagagc ctctggctgc tgtttgggca tccaagaaag ggaggggaag gaatgagcta 6977
aaaacaaaac agaatgaggt gggaaaggga gattttcttc tttacagagg aaaataggaa 7037
accctccaag aattgtgcaa gtaaagacat ttgttgaatg cactgagtcc cttggtgtag 7097
tagcaataag gaaaaatgaa attactttcc tgtgcacaca gtccagccta attggtatgt 7157
gatgttgcac ttagcagcca tgtggtgggc atgtgtgact actctggttt tcactttagt 7217
ttctaaactt tttatccctc tcaagtccag catggatggg gaaatgtctc tggatcccca 7277
cagctgtgta cttgtttgca tttgtttccc tttgagattt gtgtttgtgt cctgctttga 7337
gctgtacctt gtccagtcca ttgtgaaatt atcccagcag ctgtaatgta cagttccttc 7397
tgaagcaagc aacatcagca gcagcagcag cagcagcaca attctgtgtt ttataaagac 7457
```

aacagtggct tctatttcta a   7478

```
<210> 4
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 4
gagcctatgt tccggcatct c                                                             21


<210> 5
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 5
agagtgtatc tccgacacgt ttcac                                                         25


<210> 6
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 6
agcatacacc ggcgtcttcc ctgg                                                          24


<210> 7
<211> 19
```

<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 7
gaaggtgaag gtcggagtc   19

<210> 8
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 8
gaagatggtg atgggatttc   20

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 9
caagcttccc gttctcagcc   20

<210> 10
<211> 42500
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature

<222> 18344-18443, 25149-25248, 27228-27327, 27357
<223> n = A,T,C or G

<221> intron
<222> (820)...(5800)
<223> Intron 1

<221> intron
<222> (5985)...(9929)
<223> Intron 2

<221> intron
<222> (10051)...(10469)
<223> Intron 3

<221> intron
<222> (10652)...(11046)
<223> Intron 4

<221> intron
<222> (11184)...(11409)
<223> Intron 5

<221> intron
<222> (11545)...(11687)
<223> Intron 6

<221> intron
<222> (11776)...(12494)
<223> Intron 7

<221> intron
<222> (12643)...(18653)
<223> Intron 8

<221> intron
<222> (18774)...(19127)
<223> Intron 9

<221> intron
<222> (19251)...(19383)
<223> Intron 10

<221> intron

<222> (19518)...(24114)

<223> Intron 11

<221> intron

<222> (24300)...(30976)

<223> Intron 12

<221> intron

<222> (31137)...(31318)

<223> Intron 13

<221> intron

<222> (31410)...(32482)

<223> Intron 14

<221> intron

<222> (32678)...(34727)

<223> Intron 15

<221> intron

<222> (34863)...(35456)

<223> Intron 16

<221> intron

<222> (35559)...(36189)

<223> Intron 17

<221> intron

<222> (36390)...(36633)

<223> Intron 18

<221> intron

<222> (41435)...(42500)

<223> Intron 19

<400> 10

```
tctgtagctg cacttaagtt caaactgtga catcttccag ggtaggccgc gtctctactt 60
atctgtggtc tcagcgtcca gcacatggcg tggaagaggg ggtggcgtca gtgagttcag 120
tgactaggga cggagaaaga cttcgtggag gcagtcgctt tgcagccaag gcttgaagga 180
tgagggtgat tgggaggaga ggtgggaggc agggcccctg ggcgctggag tgccagggggg 240
tctgggaatg aagtggggtt cccataatgt gtgcgcgcag ctcggtgcga caggcggggg 300
ctgtgtgtag gtttggaggg acctatttgg ggaaaagaca cagggctgaa ggctgctgtg 360
gcgggatgtc ccttcgccct gccccactta taccactgcg cggttccaag gcacctctac 420
tggcgccctc ccgccgggct gcatggcgac gggtgaccgc caggggccgc tgccttgggt 480
```

```
ccccggtgcc cccgcccctc tccattggcc tttgttgccg tcggagcgcc ccgcttgact 540
cgttccggtc cgccccctgg gcccggcggt cgcgcctgcg cactggcagc tggccgggcg 600
ctcgcagtgg gagctgctgc aggctccgcg gcggcggcaa cggaggctgc gggggcggcg 660
gcgcgagcgg ccgggcttgg taggggagcc gagcccggcc cgggatcccg agcagcgaga 720
gtgtgggggta cctaggcccc tcacgctgga cttcacagtc tccgggccgc ctgacctccg 780
cacgggtata tgggatggaa gcgggaccct cgggagcagg taagggtccc caggaggggg 840
aacggtgcat gctccaagga ctgggggatc ccgcatgaaa agcgtggttt ccaagtgatg 900
gaagcgctcc tgagtgagga gaagggctct cccacgatgg gggcccagtt tgaaggaggc 960
tgtgtgcagt tccgggggag aaccatgtga agagagccct gagatggggg ctgtttgtcc 1020
aaggaggctg tatacagtcc tgcgggttgg aagtaatctg ggagaagggc ctgcacgcac 1080
ggaaggactc ccagacatcc gtggaggcct acggagaggc ccggcaggtg cagggggacg 1140
ggctccaggt gtccaggaga ggaggggggcg acacagatgg gcctggagct accgcatgcc 1200
gggggcgggg gctccgctgg gctggaatag gctaatgtct cttgggagaa ggcgccagag 1260
ctggactgtg agctccgccc cactgggcct gacgcgaggg cgagggtcag ggggcggtgg 1320
gtggggaccc agtcccggga ttaccccccg tgggtctggg gagtcggagc ggaggctcca 1380
gagcatgcgc ggaggtggca gctggaaggg gctgcccgac gtggtggggg cgtggctgtc 1440
cgaataccccc cacctctcca cacccccccg ccccgccccg tttggcttgg aaaaaggagc 1500
gcgctgatgg ggtgcattct ctcttaggtt atgctggcag tgtgcaaatg gttatggtcc 1560
cctcccccat tttaggggct cttacacttg gccctcagtc acagtttgct aagaatgggt 1620
tgagggaagc tgccaaagtg catttttctg ccacaggaaa gactgggacc gaagcgatgg 1680
gttctggggg tgggtcctcc tgaagatagg ccttaggaaa ggtattggtt acggaggaat 1740
caaggacagg gcaggggcta cctggaagga gttgtctgct tggtttgcaa gtttctgctc 1800
caatactgag tagtgatggg ggctttttaat ccaaagattt tccattgaat tgtctgttaa 1860
ggttacactc tacatttata acatttattc taatatttct taatattttc atggctccta 1920
tcttccactg gatatctttc cgttttcctc tccccactcc ccagaaactg tcagggctgt 1980
ctttagagcc aagatctaaa ccctacaaac acgttggagg atggggggagt ttatagcctt 2040
catcctggtg aggcctaggt gatagcctta acttcttatt tgcaggcaat gaggaggaaa 2100
agacatagga acagaggata aactgaggca ggattgcctc aagaaactg gagtccttag 2160
gatgggctgt ggggtggtga tacctcttgt gtcttaagtg tcttaccctg tgatgggacg 2220
aggagcctgg acctgggaat ccttcaggtc atctctcacc acttccttac atttggtctg 2280
gggatgggaa tcaaatttcc atttaggcca tgaacttcat tactttccta gtggaattat 2340
tttgtttttt ttgtagcaga cctaaactcc ctcccaccct cccaaggaaa tagctcctac 2400
gacctcactc aagttatcca tttagtgatc tctaagtact tagtgactgt tttccctctt 2460
aacaaccagc cttgtataga ctgtgtagtc gtaaggataa gcacaggag caactgactt 2520
gagtacttcc tctctgtcag gaccctctct ccatcccagg aacttctgtt tttcaaggct 2580
ggggactatt tccaacaacc catgaactag agtagtgggg taggtcattg aggtccacat 2640
ggattgctgg ttgctggtac ccattctaga ctaatgattt ttatcctgat gaattcctaa 2700
taggctctgg agtgatgaaa aattgacttt ttaaaaattt gttacaaaaa ataagcttat 2760
aggaaaggag ctagaacctg ctgtttggag tcagccaaag ccttgggaaa agccgaatag 2820
gacaggcttt gcctcagtaa agggtataat tgagattcag tctggaagct gcaaattgag 2880
ggaccccata actgcctcct tcctaggccc ggactgttct cttataagaa gttagagtgg 2940
tgtcccaagg tggcctgagg acataataca caaaactaaa gcgttgtgta aaaaacaaca 3000
acaaaaaacc ccccaaaaac taaagcattg ttgctagcct cactgggctt atgcccaggt 3060
ctgccttctg tgctcaggtg tgttccaagc acatacagtg gactgggtgc tccctgaggg 3120
```

```
tagaagcagt gtctggttta tttgtagaac tagcaagtgc ctagtgtata ggccctggca 3180
cagaatacat gtttattaat taaatcaaat cacattcaag tgtgaacata aatggttaag 3240
cacgtatgtg gatatttaat aaagtgtata ctcacatgga acagatcctt tttggagaga 3300
ttggcttgtt agtctttgct tgcccaccag ctaacctaac ctaacctaac cttgaatttg 3360
tgtcttttga ataggcagtc tggctccttg ggaggtgtgt gggcctcaga actgcaagaa 3420
aggaatcctg agccagggtt ttcagctctg ttacttttcc ttctctgggc tccttgggga 3480
tgggggaggg ggagtgtcct tttcagggcc cctccctcct tgcttttgtc tgaagagaag 3540
ggtcccgccc ctttcccccct aggcccaagc tttgtcctct gtgctggggc cctcatctgc 3600
atcacaaagt ggccgtctgt ccctgtctgg gtctgtaggg aagtgtctcc ctttctcaga 3660
ctaaaagctg gggtaagggg ggcggggagg agacagtgct gttgttaggc tttcaggggg 3720
atgtaatggg agagaggttc ctgcttcctg ctgtctttcc tagtttggag atgaagtggg 3780
ggtgtgggct cccctgtttt cccaaagcct ctttggagag gaaggtgctc taaggctatg 3840
tgtggtatgt agtcgggttt ctggggaaga gaaggctttg aggctagagt gtctgtccca 3900
tcccccatca tttctaacta gcccccagc tctaggagtt atctttctcc gaaggcccca 3960
aatgattatt cagtctggga ggggaagaag gtgaatgaaa tataagaact tggggaggga 4020
aaggatgtct cttactggct acacccacaa acgtgcatat ttgtcttgtg tagtgtttat 4080
aattgtttct gggcaattgc aggtgttcgt gtgtctgtgt gctgtgtgtg cttgtgtgtt 4140
tttgtggtgt gtctatggat atgtttgttc attcatttca tatcagtatg ttgaatactt 4200
cctgtgtgtg tgtcagacac tggaaattaa acagtgacca aggcagatat agtccctgcc 4260
tttgaagaac tcagtctagg gcagtgaagg atatgtgtgt aagtgtaaat gccaaggtc 4320
taagtgtgtg tttggatgtg tgtgatgggg atgtgtgtct gtctgtccgt gagcttgtgt 4380
gcaatttctg tccagcactt tctgaggtag gcagccaggt gctagtagat aggttttccc 4440
ttccccatgt agctgagttc tgaagacctt ttccatccag gctgggcctt catttccctg 4500
tctgcagagt gggactgggc ttggacaggt ggttagaggg aaacagagca gcttagctct 4560
gggaagctgc ccctcccatg aatggttctg acctcttcct gaccccagc tgagggtatg 4620
ccccatcccc ccagcttgtc tgactgtgaa agcagaagtc tgataatggg aggttctggg 4680
ctggtttatc cctctcttct cccacctggg ctagttctct actgccaaga acaatagcag 4740
catattattc ccttttttttc tctcttcccc ccaagctaga aaataagact ggagacagca 4800
gccagactgg caaaagaggg taaagtagct ggatctggcc ttaccctatc cctttcccaa 4860
gggcctcctc tgtcttgaaa ttgatctctt ctgctgctgt ctggaccttc tgtgtggaag 4920
gatctgtggg gcatggagag aatcttgtgt tcttcccaga gccagtgtct cttctccagc 4980
attctaattg ccacctcttc ttcccaaacc cgttagttct ttctttattc aagcttttttt 5040
ttttatcatt gtctccccag ttgctgcttt gtttcttcct gcctgagctt ccaaccctaa 5100
cctctttttgc cccaccccct gactccagcc ttctcttttct cctggccttt ttcttttgtg 5160
acctccagct ctgtcctctt ctccaacccc ctttctcttt tccttagtct ccaaactctg 5220
tcctttgagc cttttctcct tttccctgtc tccaactctc gccattcagt tgccttaatt 5280
ctgcctcaaa cactgaccct gccctctcca gcctggcctt gtctggatct tattcctgcc 5340
cacctataaa ggaacatcaa ggttatgcca ttttgtattc agcatggtgg cgaatggagt 5400
gagcatctgg ctggcagaga atagaaattc ttggtctgct agatacctgg tggaggcaag 5460
tgtcttactc tactagaaga aagaaagggt tttgttacta ggagccagat ttagtctctc 5520
tgcttaacat gcaataggaa cttattatat attaacttaa tgaattaaaa atagacaata 5580
aggataattt tcctaactgg agagagatta aaaagaaaa aagagaaaaa acacagatga 5640
gcttgagatg tcccctggaa gcccttggct gggttgggta gcaggaaaga ggcattctct 5700
atactctcgt gttcctgttc tgggaggcct tgttcctcct ctgataagag tagttaggag 5760
```

```
attgccagac tttaccctca ccagcctctt tgtcttgtag ctgcgggcgc ttacctgccc 5820
cccctgcagc aggtgttcca ggcacctcgc cggcctggca ttggcactgt ggggaaacca 5880
atcaagctcc tggccaatta ctttgaggtg gacatcccta agatcgacgt gtaccactac 5940
gaggtggaca tcaagccgga taagtgtccc cgtagagtca accggtaagt gatgcacacc 6000
taagccacca aatctgaaag acaccaacct tgaaagaggg gccagaaagg taaaagaaaa 6060
accagtagag ggtagtatca ccaaatctaa ggaagttttt gaacgggaga tgccacgtcg 6120
ggtaaatgct gaaaaatagt ccaattggac ttcgctattg gaagattatt agtggctttt 6180
gccagagcaa tttcagcaga aagtagttga gctagttaat ctaactacat tgagttaaga 6240
aataagtaca gtacctacta catttcaata ttagttgaat gaataaagag ttttaaagaa 6300
tgagatatgg gtatgtttac agattaagga gaaggagcta gtaaagaggg agaggttaaa 6360
ggtatgggac agaggggaga aatgaatggg atgtccttga tgaggcagaa ggacagaggg 6420
gagaaatgaa tgggatgtcc ttgatgaggc agaaggacag aggggagaaa tgaatgggat 6480
gtccttgatg aggcagaagg acgttgtagg atgcacagtt ggagggatta gccttattta 6540
gaggaagtga tatttccttt ttttttttt tttttttgag agggagtttt ctcttgttt 6600
tgtttttgag agggagtttt gctcttgccc aggctggagt gcaatggcgc gatctcaact 6660
cactgcaacc tctgtctccc agctttaagc tattctcctg gctcagcctc ctaactggga 6720
ttacaggcat ctgccaccat gcctggctaa ttttttttgta ttttagtag agacggagtt 6780
tcaccatgtt ggccaggctg gtctctaact cctgacccca ggtgacctgc ccactttggc 6840
ctcgcaaagt gctgggatta caggcgtgag ccaccgtgcc cggcctctgt gatatttctt 6900
taattaattt tattatttga aaactatatg tataatatta aaaaattcaa atattacaaa 6960
aagaataata gtgaaaaatg tctccttact atcctggtct ctagtccccc agtaccatta 7020
attgttacct tttttttcttt ttgagaaaga aaaattagat ttttcttttct ccctctgtcg 7080
cccaagctgg agtgcagtgg cgccatctca gatcactgca ccctctgcct cctaggttca 7140
ggcaattctc gtgcctctgc ctcccgagta gctgggatga caggcaaacg attctcctgc 7200
ctcagcctcc tgagtagctg ggactatagg tgctccccac catacccaga taatttttttg 7260
gtatttttag tagagacagg gtttcaccat gttgaccagg ctggtctcaa actcctaacc 7320
tcagatgatc tgcctaccta ggcctcccaa agtactggga ttacaggcgt gagccaccgt 7380
gcctgaccaa ttgttaccat tctcttcttt ttttgagacg gagtttcact ctgtcatcca 7440
ggctagagtg cagtggcgtg atctcggctc actgcaacct ctgcctcccg ggttcaagcg 7500
attcttctgc ctcagcctcc ctagtagctg ggattacagg cacccaccac cacgcctggc 7560
taattttttgt atttttagta gagacagggt ttcactatgt tggccaggct ggtctcaaac 7620
tcctgacctc aagcagtctg cccgcctcag ccttccaaag tgctgggatt acaggcatga 7680
cccatcatgc ccggccaatt gttaccattc ttgaatatgc ttccagatac ttttctacat 7740
atatacaggc atatatgcac atataacatt tttaaacacc caaaacatag ggttctttat 7800
acattgttct atactttgca ttttttccact taacaatata ttttttgaaga tattacatac 7860
cggcacatat ggatctgcct cattcttttg cataggttga gtggctgtaa tataacttat 7920
gtaataaatc tattgaggaa catttgagtc taaattctgc tactaaaatg aaactgttga 7980
atattattat atatagattc atttttgcac tcatatgagt atatttgtag gataaattgc 8040
taggagtggg actgttggcc taatacattt cagagttttc agatattgca acttgttttt 8100
aaaggtaagt tgtatcaact tatactccca tcaataaggc atcagagtgt gtcttcctat 8160
acctgcacca atctaatatt tcagattttt ttgatctttg gcattctgat cttggtctaa 8220
ttttaaatta tatttttcta ataagtgaag ttgaatatat tttcgtatgt ttaaaaataa 8280
tgtatggaag gggcattttg agtataagaa gaaaggagaa aaattgatgc acacacatat 8340
aaatatgttt gtgtatatgt ctggaaactc gagggtggcc ttgcgtacta tcctctgcct 8400
```

```
tttttcaatat tagagctgct tcctggtagg agacaagtac ggggtctgga gttagaggct 8460
agtggagaaa gttctacata gtctacatag tgtaggaggg atagaagtaa tcaggacat 8520
gaaaaagatt gctaggcagc actgaagcct aattgggatt gaaaccatat gatcacagtg 8580
cttctaatgt accatttttga gttatccagt agtagtcaag aactttgatc tagaaagtgt 8640
gaaggtcagt tggtcagata aactggaatt ttgaaggaat aatggacacc ctggggtcta 8700
agtttcagag gtcaggaagt aagagatggt aatggagaaa aaatagggtg gtgagactaa 8760
gtgcttcaga gagatggaag agatgagatt tttcttccac agtttattct tattccagtt 8820
cacatctctt ctaccttttt tgcttatcag atctgggatt agagatctgg gattagattg 8880
gagcagccta gattctgttc ctgatttttt tgttttgttt tgttttaatt tattttttat 8940
tttttatttt ttttttgaga cggagtctca ctttatcgtc caggctggag tgcagtggca 9000
tgatctcggc tcactgcaac ctctgctttc aggctcaagt gatcctcccg cttcagcctc 9060
ctgagtagct gggactgtag gcacacacca ccttgcctga ctaattttg tatttttttgt 9120
agagatggag tttctccatg ttgcccaggc tggtctcaac cttgggagct caagcaaatt 9180
gcccgccttg gcctcccaaa gtgctgggat tataggcatg atccactgca cctggccatc 9240
cttttttttt gtttttttgtt ttttttttga cagggtct cgctgtgtcc cccaggccgg 9300
agtgcagtgg tgtgattata gctcactgta accccaaact cccagcctca ggtgatcctc 9360
ctgcctcagc ctcccaaaca actgggatta taggcacatg ccaccatacc cagctaatta 9420
caaacatttt attttttgt agaagatacg gtctcactct gttgcctagt ctagccttga 9480
gctcctaggc ccaagtgatc ctcctgcctt ggctgcccaa gtactgggat tacaggtgtg 9540
agccaccata cttagccta ttcctgattg ttgatagacc ctggagtcaa gcttttctcc 9600
ctttagcctc cccctcttct cagaaggcac tcacaccact ctttcaggtc cattacagcc 9660
ttggtgatct gaggaccagc agtgtcactt aggagcatgc tagaaatgca gaatttcagg 9720
cttcgctcta gacctgctga atcagaagct acattttaat aaaatctcca ggtgattcat 9780
aggaatatta aagtttgaga agcactgtca tagagtagat gttaggagtg agtataatag 9840
atgggacatt gcctggactt tgaattactt ccaaaacttg aagtggtggt agtctctcag 9900
cttccacagg ccactcctat cccccacagg gaagtggtgg aatacatggt ccagcatttc 9960
aagcctcaga tctttggtga tcgcaagcct gtgtatgatg gaaagaagaa catttacact 10020
gtcacagcac tgcccattgg caacgaacgg gtaaggttgg gagtcaggct aggcctgtgt 10080
cagggtctg gggtagaacc aagctcatgt aagcctcttt ggagatccag agatcctttt 10140
catcttttgt gctgagaaag tatgttttag ggtgaggggt gggtaggtgc tgatgtttat 10200
ttagtctatc atgtgcctgt ccgtgtccta aacagattga gattagactt aaaatagacc 10260
taagggcttc ctgctaggct gagaggtagt tgagaggaac agaagcactg agccaaggtg 10320
gctagaacct aagggctag acttactctg gattttcatt atgagcccct atcaacttga 10380
aaaacatgtt ctcagcaaat ccatggagtt gggggtcatt ctcgcagagc aatggcaatc 10440
cttcatccct ttctttcacc ctcctgaagg tcgactttga ggtgacaatc cctggggaag 10500
ggaaggatcg aatctttaag gtctccatca agtggctagc cattgtgagc tggcgaatgc 10560
tgcatgaggc cctggtcagc ggccagatcc ctgttccctt ggagtctgtg caagccctgg 10620
atgtggccat gaggcacctg gcatccatga ggtattgggt gtagttagta tctgggctac 10680
tagtgttggc agaactgctg tcaggggagg aggggagca catattaagg tcccacagag 10740
tgccattaaa aaaaaaaatt atttgaagcc ctaccacttg ccaggcaaat gtgtatttat 10800
atttagatgg tttaaagccc tggccctgaa cttcttagat atctttgggc ctcatcccat 10860
ctgtccctgc agggcagaga gaaggtagaa acttgtacaa ggtcagtcat acaactagta 10920
aagcatcaga gctggcatta aagccccggt gtcctgcctt tcaggccagg gctcctccgt 10980
gcccaggatg cctcacaggg tggggggcctg tgcccgaggg accagttctc tgcctgtccc 11040
```

```
tgccaggtac acccctgtgg gccgctcctt cttctcaccg cctgagggct actaccaccc 11100
gctggggggt gggcgcgagg tctggttcgg cttttcaccag tctgtgcgcc ctgccatgtg 11160
gaagatgatg ctcaacattg atggtgagtg gggagagcta tggagccagg ggcaccccaa 11220
gtccagtgac cacactccca gcctcatccc tcccagctct gcaaccacac tcctagtcta 11280
attcctacag ccctggcacc cccttccccc atcccaatgc cctttaagga agagggtata 11340
aattgctgtg cctccatgta ttgtggaaga cagaacctga gctgagctat ctttaccctg 11400
tccccacagt ctcagccact gccttttata aggcacagcc agtgattgag ttcatgtgtg 11460
aggtgctgga catcaggaac atagatgagc agcccaagcc cctcacggac tctcagcgcg 11520
ttcgcttcac caaggagatc aagggtgagg acccaacagg aggggaaggg aaacagcgcc 11580
actttagccc taagaggaaa tccccttggg gtatgctcag gggagagacc aagcctgggc 11640
acatgagcaa cctatttttag ccctgacaag cagtgtgtgt atctcaggcc tgaaggtgga 11700
agtcacccac tgtggacaga tgaagaggaa gtaccgcgtg tgtaatgtta cccgtcgccc 11760
tgctagccat cagacgtaag ttggcagggg tgctgagtca tactttgttg gtggagaagg 11820
gctgagattt aaaactatct ttccctccct ccctcccccca ctggccttga gaatgagcct 11880
tggggactgg ccctgttttt gaagataagc tgtgggaatt tggcatcctt tctcaacctt 11940
ctctgatctg ttgatactct ccctaccatt tttaccttct tgatctcctc gcctctttgg 12000
ttccttactt gagaacaagt gtgttctctg attcctgtta gggttaggca aatgttagaa 12060
tctctctcaa attattcttt ctcttgaaaa aagaaagcga ggctcctggg ctccttgggg 12120
aagctgtcat tgattccatt cccattcttg accttaggct atactgatta ttatgagtgt 12180
ctactctgtg tcaggcttta tgctcaacat tggaaataaa tgagtcagat agtgtcctga 12240
cttctgactt ttgtggaact tgcctttcaa acctttggct tctctcttgg agccctgtat 12300
gtcctgtttt cccatgagtg gcaatgctca aagaagttgg ataggatgaa gcaaagtctg 12360
ggacttcctt cctgcacatc atattggggc caaatgaaaa aggaaaaaat ctgaggcttc 12420
catggttgtg ggtctagaga agtgggactg aatgctgggt tatgacaccc ccttccttcc 12480
cttcttctga acagattccc cttacagctg gagagtggac agactgtgga gtgcacagtg 12540
gcacagtatt tcaagcagaa atataacctt cagctcaagt atccccatct gccctgccta 12600
caagttggcc aggaacaaaa gcatacctac cttcccctag aggtgagatt gccaagtaat 12660
ggctggggaa taggcattgt atatacctgc atgctgatca tcagatgtct gttctttcat 12720
tttgaagttt ggaaaactga cattctgaga aggtatgagg tagttctcct gtgaaataga 12780
ggcctcattc ttacctgcta agttgtttcc ttatcccccca tcctactctc atgttctttc 12840
agggctgcca ggcagagaca agctgaattt actgtttaat aagtaattag ttcgtagagg 12900
acagagattt tagatacccca cactcatgtt ctcttaattt ctcttcccct gttgtttaga 12960
gctgggatcc taagtgacct gaagatataa gtctacctta ttcttacaa actggtgata 13020
aatactacct ataatgtaaa tcatgtttct ccaaggatta atgtgttcct tttgaaaaag 13080
ttttagcccc aagattgtca tactttttata agtcagtaga cctttggaat tctgcaacta 13140
gaggaggaat agtaactaac actaagttat agaatacaaa tacagaatca ctgggctata 13200
ttttgtttgg tatatactag ccaaaatatt gaatgagaaa ctactgccta ctgcttcatt 13260
gtctcgtcca atgctactca aaaagtgtgg tcatgtgtac caataggata ggcattacct 13320
gagagcttgc ttaaaatgca gatttcagat tccacccata ccgactgaat cagaatcttt 13380
tttttttttg agatggagtt tcgttcttgt tgcccaggct ggagtgcaat ggcatgatgt 13440
tggctcactg caacctctgc ctcccgggtt caagtgattc tcctgcctca gcctcctgag 13500
tagttggaat tacaggcatg cgccaccaca cccagctaat tttgtatttt tagtagagac 13560
ggggtttctc catgttggtc aggctggtct cgaactcctg acctcaggtg atctgcccac 13620
cttggcctcc caaagtgctg ggattacagg tgtgagccac cgtgcccagc cagaatctgt 13680
```

```
cctttaacaa gatccaaagg gaatgtacat taacgttgga gaagcactgt actagactac 13740
cctctttttc ttttttgttt ttttgagaca gagtctcgct ggagtgcagt ggcaccatct 13800
cggctcactg taacctcctc agcctcccag gttcaagcaa ttctcatgcc tcagcctcca 13860
gtagctagga ttacaggtgt gcgccaccgt gcccagataa gttttttttg tatttttagt 13920
agagatgggg ttttgccatg ttggccacac tgatctcctg gcctcaagtg atctgcctgc 13980
ctcggcctcc caaagtgctg gattacgggc atgagctgcc acgcctggcc taccctctta 14040
cttttatcca acagcagaag tcagatagcc cagaccaaag ctctagtctt ctggtgagct 14100
tctaggattt cagaactaac ctgagggagt taggctgaag ggagaagaga tccccaaaac 14160
caagaactct gacttggtta atagctactg atgcacatga aggcaacatg ttctctgagg 14220
tataaacaga ggtctttagg gacaatctta gctaagtaga tagtaggtga tatttactgt 14280
aagcagagat ttgttagcaa attaacatta tttctattta aacagcagtt tccaaggggt 14340
ataatttatg ttatgactta gaccttgatt tctgttgttg cttatttaac atatatttat 14400
cgagctccta ctatgtgtca tatactctca ggtgctagga acatggagat taacaagaca 14460
gacaaggtcc cagctgttat ggagcttaca ttctagaagg gggagataga caataagttg 14520
ataaacacgt aaagtagttt cagatggtga taagtgctat aagaataata aaataggtta 14580
aggggataga agtaagggag gaagagggta gagagctatt ttagttgtta gggaggtcct 14640
cttttaggag acatttgagc taagtcccaa attatgacat agaatcaacc ttgtaacaac 14700
ctgagagaag agccttccag gcaggaggaa gtacaaaggt tctaaagcag aagagaattt 14760
ggatcttttt gagggataga cagaaggcta tggtggctag aatgtattgt gtgaggggaa 14820
aagcagtagg atatgattct gcagagggtc aaataatata gcctgttgaa accacgtggc 14880
attttattac tgttttttgg aaaagcttta tccaggttgg ctgtgtggct catacctgta 14940
atcccagcac tttgggaggt caaggcagga ggattgcttg actgcaggtg tggtgtggtc 15000
ccagctactt gggaggctga ggtggaagca ttgcttgaac ccagtgagct gtgattgtgc 15060
cgctggattc tagcctgggc aacagaggga gaccctgtct caaaaaaaaa taaaaaaaca 15120
gctttatcga gatataattc acataccata aaattcacca ttttaaaatg attaggtagt 15180
tttagtatat tcacagaatt gtacaacagc catcaccact atctgattcc agaacatatc 15240
actcctgaaa gaaagcctgt attcattagc agttatgcac cattcgttct ctccccaaca 15300
gcctgtagta accactaatt tactttcagt ctctgggtat acctattttg gacatatcat 15360
atatgtgaaa taatacaata tgtggccttt tttgactggc ttctgtcatt tagcataatg 15420
ttttcaaggt ttatcctcgt tccatcagat ggatatgtca tattttgtta attcatttat 15480
cagttaatgg acatttggat tgtttctact ttttgggtat catgaataat gctgctgtga 15540
acattgatgt acacattttt gtgtgaacat aagttttttat ttctctggag tatacaccta 15600
agagtgatat aatatataac aatgtttaac atcttttttt tttttttgag acggagtatc 15660
gctctgttac ccaggctgga gtgcagtggc acgatctcgg ctcactgcaa gctccgcctc 15720
ctgggttcac gccattctcc tgcctcagcc tccggagtag ctgggaatgc aggcgccgac 15780
caccacgcct ggctaatttt ttgtattttt agtagagatg gggtttcacg gtgttagcca 15840
gaatggtctc gatctcctga ctcatgatcc gcccgcctca gcctcccaaa ttgctgggat 15900
tacaggcgtg agccattgca cctggccaat gtttaacatc gtgatgagct gcctgattgt 15960
ttcccaaagt agctatgata ttttacaatc ccatcagcaa agaatgacag ttgtaatttc 16020
tggccaggta ggattttatt ctaattataa tatgaatcca ttggaaaatt ttaagtagaa 16080
gaacaatgtg gattattgtt ctagtttcta gttgtgaaga ttcaattaga aactagaagt 16140
agtgcctcca gtccacctct gtgtcttcct tgaatagtta tgtaggtcat tgagtgtcca 16200
caaaatcatt tattcatgtt caaatcacag ttcattcctt cttccgtctt tttcaaattg 16260
tggtaaaata tacataatgt aaaatttacc attttaacca ttttttaagta tacagttctg 16320
```

```
tggcattaaa tacattcatg cagttgtaca accatcacca tgaccaatct ccagaacttt 16380
ttcatcattc cacactgaaa ctctataccc attaaatggc aactccctcc ttttaacccc 16440
tagcaaccac cattctactt tctgtcttta tgaatttgac cactgtaagt acctcaaata 16500
agtggaatca tagtatttgt cctcttttga ctggcatatt tcacttaaca caatgtcttc 16560
aaggttcatc cgtgttgtag catgttagga ttcccttctt ttttaaggct gaataatagt 16620
ccgttgtatg tatatatcat gttttgttta ttcattcatc tatccatgga tacttgggtt 16680
gcttcttcct tttggttatt gtgaataatg ctgctgtgaa cagagatgta aaaatatttg 16740
ttgaagttcc tgtttcatt ttttttgagt acatacccag aagcagaatt gctggtttat 16800
atggtaattc tgtggttaat tttttgagaa attgccatac cattttatat tcccactggc 16860
gttgtacaag tattctaatt tcaccacatc cctgatttag tcttttgcta gtgttaattc 16920
tgtatcttta accacctgta gagaatgcta caactttaag gcacctttaa gagagcaatc 16980
tcacaaattt caataatttt ggattttcat tacgtgaatt gactattttg tttattctct 17040
ggaatatgga gtttgaaggc aggtgacctt gggctggttt ccttcccat tgtttaccat 17100
gaactctggg aattaggacg agaactagta tgtaaagaat gttggcccta tgggagcaag 17160
ttcctcattt catctcatct aaatccttac aacaaactca tgagacagct agtgtatttt 17220
ttttttctcat gtttgagatt aaagaagaag attctcagag tggttaagag tcctgtttaa 17280
ggtaacatca cctagaaatg gcaaagctgg acttcaaaca gaagtatttc cagacctact 17340
ggctctctca attctagaag cctttctgtt cacagcatcc tgaatatagt atattgggga 17400
gtggaagtct tgtatgtcac tagacagctt tttatgatct ctgttgtttt ctgttgggcc 17460
cagaacagat gaagtaaatg gcaggatgtt tctcacacca gcagaggaca ctgtcagcca 17520
acagagacag tgatagctgt aggctggggg ctcaggagtt tagaaccaac cctagtcctg 17580
gtgggttgca ggatggagca acctgtcacc attggacagc tgccttagaa atctaatttg 17640
tgtatattga gttgttcagt attcagaaga gctctatata tggtcctttg gtaaataata 17700
atctgtgcta caatttattg tttactgtgt tccagaacta tactcagtcc tttaagtgct 17760
ttatttaatc ttgaggcaac tcttagattg ttactattat ccttccttaa aatatgaagg 17820
tcaggcatgg tggctcactc ctgtaatccc agcactttgg gaggcggagg tgggtggatc 17880
acctgaggtc aggagttcaa gaccagcctg gccaacatgg caaaacccca tctctattaa 17940
aaatacaaaa ttagccgggc atggtagcac atgactgtaa tcccagctac ttggaacgct 18000
gaggcaggag aatcgcttga acctgggagg tgaaggttgc agtaagccga gatcgtgcca 18060
ttgcacttca gcctgggcaa gaagagcaaa actccctctc aaaaataaac aaataaatac 18120
ataagtacaa aaattagcga ggcatggtgg cgggtgcctg taatcccagc tacttgggag 18180
gctaaggcag gagaattgct taaacccggg aggcagatgt ctctgagccg agattgtgcc 18240
actgcactcc agcctgggta acagagcgag actctatctc aaaaaaataa ataaataaat 18300
aaaatatgag acctgagccc agatctggct ctggatcaca agcnnnnnnn nnnnnnnnnn 18360
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 18420
nnnnnnnnnn nnnnnnnnnn nnncccggcc tgaatcgcct tttacaatgc acacgaatat 18480
tttctaattt acctatcaaa tgatactcag gaggagaata catgtatgca caacggattt 18540
tgcagttccc ttccccatgg ctgacagcca aggtatcttt ccttattgtg gggctctggg 18600
tacagggtgg actgtactca agccagagct acctgtcctt cttgtttcct caggtctgta 18660
acattgtggc tgggcagcgc tgtattaaaa agctgaccga caaccagacc tcgaccatga 18720
taaaggccac agctagatcc gctccagaca gacaggagga gatcagtcgc ctggtcagtg 18780
ggcctactca tttgctcagt cattggggcc attggtagca taaatgtttt aatgccccag 18840
caggaccttc cttcaggaga acccaagtct agatttgttg cctaggactg tataaggctg 18900
cttttgcttc ttgaccgtat agctactttg ctttctgtct ctttttctct cctgtattac 18960
```

```
tttgctgtgt tattccctca cttccctcat cttccacttt ctctctcttt ttaggactat 19020
tccgtaccaa ccccagcttc tccttagggt tctctccttg atacccagag ggtgagcagt 19080
attgccaagc tcctgttctc ctgagattgc tctcttttgt cctgcagatg aagaatgcca 19140
gctacaactt agatccctac atccaggaat ttgggatcaa agtgaaggat gacatgacgg 19200
aggtgacagg gcgagtgctg ccggcgccca tcttgcagta cggcggccgg gtgagcaggg 19260
tcagggccag acaacatctc ggggcatatg ggggtggttg ggttgtatag ccaggggctt 19320
ttgctcccct acccacctga ctctactgag gctcacctag gcgcccctc tacctatccc 19380
cagaaccggg ccattgccac acccaatcag ggtgtctggg acatgcgggg gaaacagttc 19440
tacaatggga ttgagatcaa agtctgggcc atcgcctgct cgcacccca aaaacagtgt 19500
cgagaagagg tgctcaagta aggagggttc gctgtagggg tggaagggtg ggaaggaccc 19560
tggagctgcc tgccttcctg tagtccacag gggctgatat tgatcagtaa tgtgttctgt 19620
cttgactctg cctgcattgt gctttctggc tcaaacttct accaattctt tttctatcca 19680
tctgtgatca ggggaagtta ataaggagcc atatctatgt caaagatgat gattttaggg 19740
catgaatctc ctgagagagg cctgaattat tgttataatt attatcattg gtaataaata 19800
gtagtagtga tgactgtaat gtttacgcca aaattatact taagtaccta atttatattc 19860
tcttatttca tctttacagt gagtaggtgg tgatatgtcc attttcagga gactgaggct 19920
caaaagaggt taagtaactt gtccaaagtt tgcacatcat caggaaagtg tcagagttgg 19980
aagcaaatca gatctgagct tcaagacttg tgttcctaat tggaaacaaa atagagcagc 20040
ttgtttagct ggttgtcagg gcctctgtgc caccgtagct gggagtagat ggcaccaatg 20100
aggaaagtgt tatagccaaa tggtttaaag aaaccaggca gtaatggctt aagaagtcaa 20160
caacccctca cctggagtct tttttttttt ttttttttt tttaagacag agtcttgctc 20220
tgtcacccat gctggagtgc agtggcacga tcttggctca ctgcaagctc cacctcccgg 20280
gtttcacgcc attctcctgc ctcagcctcc cgagtagctg ggaccacagg cgcccgccac 20340
cacgcccagc taattttttg tatttttagt agagatgggg tttcagtgtg ttagccagga 20400
tgatctcgat ttcctgacct cgtgatcctc ctgcttcggt ctcccaaagt gctgggatta 20460
taggcatgag ccactgtgcc cggccttttt ttttttttaa gttttattga gataggttta 20520
aaatgccaca aaactcagtt agttgtttca tagatacaac atacagttag ttggttactg 20580
ccatctttcg aagtggttgc ttttcatatt ctctgaatct ggagtggggt caatgcactc 20640
tagggatgag gaggagttga tggagccgac cattttggct agacaagggt agtggggaag 20700
tatgccatga cgaattcagc tgaccttgga gtcatcatga gaattcgttc ttagctgggg 20760
tgcagtggtg cgtgcctgta gtcctggcta ctcaggaggc tgaggcagga ggatcacttg 20820
agcccaggag ttttctgggc aatatagatc ctataagttc taggctgggc atggtggctc 20880
ctgcctgtaa acccagcact ttgggaggct gaggcgggcg gatcacaagg tcagtagttt 20940
gagaccagcc tggccaatat ggtgaaactc cgtctctact aaaaatacaa aaattagccg 21000
ggcgtggtgg cgcgtgcctg tagtcccagc tgctcaggag gctaaggcag gagaatcgct 21060
tgaacccggg aggcagaggt tgcagtgagc taaggttgtg ccactgccct ccaacgtggt 21120
aacaaagcga gactccatct caaaaaaaaa aaaagttcta acagctcctg atggatctgg 21180
agactatggg acctgccctt gctcttcttc ccttacccct cacagataca caaacaccat 21240
cataattgta gttcttgcaa atgggttctt gtctcctttc ctgagctctt ttttttttt 21300
ttttttttg aggcggagtc tctctctgtc gtccaggtgc agtggcgcca tctcggctca 21360
ctgcaagctc cgccttccgg gttcacgcca gtctcctgcc tcagcctccc aagcagctgg 21420
gaccacaggc acccgccacc acgcctggcc aattttttgt atttttagta gagatggggt 21480
ttcaccatgt taaccaggat ggtctcgatc tcctgacctc atgatccacc cgcctcggcc 21540
ttccaaagta ctgggatcac aggcgtgagc catcgtgcct ggcctttttc tgagttcttt 21600
```

```
agcccccatt taagccaggc tgcttggcaa cattggaaag gctcccagct ttttgccttt 21660

gtgccatagt cacttcattg tagttctatt ctctatgtgc tcttgtcttt ctcccatgtc 21720

cttcccttgt ccatttcttt tgggatgatc tattgttttg gccatttggg gtatgggcac 21780

cagtaaaccc agaaactcaa acttggaaga gtttatcagt gacacctagt tgtaaggggt 21840

aagaatgtgg cttatgcatc tgggtcagta gtagccagtt aaatctgtgg ttctgactgg 21900

gctaaaggta aatatttcca agtcatctat agcagtggct gagattgtcc agggagaatg 21960

tacatagtaa gcagagattg aagatataac tcagagaaac tggaaaataa atagagcaaa 22020

gtccctaagt gtggatgagg tgatgggatc cagggcactg agaaagggca tcctttccac 22080

tgagaaagtg ggggaaaaca tgaaggtgct atggggtttg acaaactagt agttggggga 22140

tgatggatga gagagttcta gacgcaaccc tcaatttttt tctggctaaa gaggccctat 22200

tactttagct atatcacctt taagatggga ttttaggacc ttcctcatct taaacatctc 22260

acaatacttt gtggcccccca gcattggaca cagtattcca agtgtagtct ggtagtagag 22320

agaagattgg aaataacgtc tttccttgaa gttgagaccc actattcatg aaatctggta 22380

acatactggc ttttaatag ctacattgca gttgtataca gggcagagaa atggaaaaca 22440

tactattaat ggtcaaagcc ctagctgtta tttacatgaa acagtggtta ggtcgtgttt 22500

ttttattcta acattcattt tgaaaaattt ttttaagata ataaatgtag agaataacat 22560

gtatccattt ttgtcatatt tactttatcc ttttttaaat gtaaatatta cagataaatt 22620

tgatgctcct tcatgtcctc caccctagtc ccattcctcc cttctttttt tgacagcctc 22680

gctcttgccc aggctggagt gcagtggcgc aatctcggct cactgcagcc tctgcctcct 22740

gtttcatgtg attctcctgc ctcagcctcc tgagtagctg ggattacagg cactcaccac 22800

catgcccggc taggtttttt ttgtattttt agtagagaca gggtttcatc aggttggcca 22860

ggctggtctc gaagtcctgg cctcaagtga tccgcccacc ctggcctccc aaagtgctga 22920

gattacaggt gtgagccact gcaccagccc tattcctccc ttctgatgag gccactgtta 22980

tgaattattg taaccaggct actcaattta tatacctata tataaatgat tttaaatttt 23040

gcataatagt atcagactgt ttctttttctt gtgtgttttt actaaatatg tgaaaaaata 23100

ctttctcata aaactatcac attgcttttt gtatgctata taataataac atctcctaaa 23160

cagctgcttc cattctcttc ttgtacattg ttttttaaatt taaatggaag attatcacaa 23220

attaaatttc ctgctgctta tttcagtttt tgagtatctt tatgtagctt gattttttta 23280

ctctactgca tgtgtgtcct ctcttgcaac tttgtcttcc tttccagggt aaagccctaa 23340

agccaaagga agcttaataa ttggctctta ggtttcaaag aaccagttgg gaaggaggga 23400

actcattttt actgagcatc tcttgtgctc ccatcactgt tggaacctca tttgctttga 23460

gcagaaaggc cttacacgtg ggcatctgcc tatttctttg gacatgtaat gaagcacagg 23520

aatcagctgc ttgagcgggg caaggtggga accctgagaa ttcccatggg tccttttct 23580

gggcttcctc gtctccttgc ttgtaccatc gaacacttag caagtactct cttaccttac 23640

tcaactataa acatatttt tacattagct attattgtgt tcattcatg ttagaatctc 23700

agtgttagct gggtgcggtg gctcatgcct gtaattccag cactttggga ggctgaggtg 23760

ggaggatcac ttgagtccag gaacttgaga ccagcttggg caacatagtg agatcccatc 23820

tctaccaaaa agaaaaaaaa ttagccaggc atggtggcat tcctctagtc ctacctactc 23880

aggaggctga gatgggatga ttgtttttagc ctagcagctc gaggcttgag tgagcccaga 23940

ttgtgccatt gtactccatc ctggttgaca gagcaccctg tctcaaggaa aaaaaaaaaa 24000

aaaaaccaat ctctcagtgc ctcttatagt gctaagcacc taagatggat ggattttttgt 24060

cagaagaatt caagtgagac tcactgcctc ctttgtgacc atgcgtgtgt acaggaactt 24120

cacagaccag ctgcggaaga tttccaagga tgcggggatg cctatccagg gtcaaccttg 24180

tttctgcaaa tatgcacagg gggcagacag cgtggagcct atgttccggc atctcaagaa 24240
```

```
cacctactca gggctgcagc tcattattgt catcctgcca gggaagacgc cggtgtatgg 24300
tacagttctc ttgggacagt gataatggtg ataggactct tctcagcgta gttccctggg 24360
gtctcctggg aaggactcag tctggattct tggctttgac cagagctgtt acttaatgtc 24420
agtgctcctc ttataggaga aatagcatgc ctgagccatt gagttatccc agatcctaat 24480
tacctgcaca cactccttcc cagcaacatt tactggggtc ctttgtgtgc tggtcctcat 24540
gccaggctat gctgggccag gtacagagac gggttggtct agattcctgt ccttaggagt 24600
gcgttcctgt cctcaggagt gcattgttta tctgaacatc gtgcagcaca accaagcaga 24660
ataggtggtc ctgttagtat cgtgttgcct ggtaattact tggacttttt gagaggcttg 24720
ctatctctcc tcttttcctc tcatttttta gaataagaat gattatataa atttctgtca 24780
cagcactttt cttttatgcc attttccgtc tccatctctc ctgcttcaaa gcaataagag 24840
tttttcttac cttgttcaac taactcctct gtgctcttat tcccaaccca tcctgctacc 24900
tttgggactt tatacctttc aaccctcaaa tatattcaga tcccccatcc taatgcacat 24960
taccacaatc ttaccatctc ttttagcttt tgtcttccta tttccttcat taaaccttct 25020
gaggcctggt acagtggttc acacctgtaa tcccagcact ttggaatgcc aaggtgggag 25080
gatcgcttgt gccagaaatt gaggctagtc tggccacaaa gcaggacctc attctacaaa 25140
aaataaagnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 25200
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnntc tcttattctc 25260
tatgccctat acctcaccag ccacttattc tttagcctct ttcagccacc ttgccttctg 25320
tctacctttc tcctaaatct cctctgcaca ggattgccaa tgactttct cagttgtcct 25380
cttgacttct ggatattttc ttctatctct ccttattatt tttgtcatta ccaggaatcc 25440
ttggtattct acaggttcct attgtctgcc ttctcattct gcctttacat tttattaaaa 25500
ttcccattca tttcagttgc ttcaatcatc acctattgct attatatgtg attaaaatct 25560
tgattcaatc cttgaaccct ctgcagcttt ggtctgtccc tttggcctct ctccctctct 25620
tcaagagttt attgatcacc tattatgtat ggaacactgt ccaacatctg gatatattga 25680
tgaataaaac agatatagtc tctgctctta gaaagtgttt tgttggacca tctcttcagt 25740
agtttgtcct ctctacaaac ctttgtcttt actacttctg tatttgacat cacagttgct 25800
tctaagtacc ttcattcaaa cttcggagac agtcttgtct tttcgcttca ccttcattgt 25860
tcttcttcaa attttttctca agataatatg ccctgctctt gatccacact tctcaactga 25920
gttctaacct tccttttttt tttttttttt tttgagacgg agtcttgctc tgttgcccag 25980
gctggagtgc agtggcgtga tctcagctca ccgcaacctc cacctcccag gttcaagtga 26040
ttctcgtgcc tcagccttga aagtagctgg gattacggtg cgcactacca tgcctcgcta 26100
attttttatat ttttagtaca gatggagttt cgccatgttg gccaggctgg tctcaaactc 26160
ctgacctcaa gtgatctgcc cgcctcggcc tcccaaagtg ctgggattac aggcatgagc 26220
cactgtgccc tgccttaaga ctttcttgaa tgggttccaa gaaagacttc ttgtgactct 26280
aatatcaaaa aaaccttcat tgattcctat tattcactgc atgaagggtt tcatggacc 26340
tgattttagt ttaatgtttt cagctttatc ttgcactgtt cacttgccac tcatactgga 26400
atgattgctg gttctggaat tgttgaagag agctgaattt gaatttaatc ctggctatac 26460
cagtcaactg gcttggacac atatctaacc tttctaagca tcatgaatta attatataaa 26520
aagcagaatc tagcacagtg cctggcatgt agctgacact ctgagtgctc atttcttgtc 26580
tgtggttttc agtctctggt gttgtacaca tcatttgcct ttgcccggag tatctgcatc 26640
ctcttcttct tgtcccccac cttgcactta aaattctctc catcctttaa tacccagttt 26700
aaatactact tatttttat tcttgacatt tcacctggag agtgaacttg tcttttctg 26760
gattcctcta gtttatcagg ccactgatca gttactacct tacttgatac tttgttgtgg 26820
agtggatctg attctgctct gaaatctttc ctctctatat acacacctaa ggtaatgcct 26880
```

```
ttcactgata caatactcag taattaactt atggagagaa gttgtttgat cttcagtcct 26940
tgtctttctt ggacccttgt atggataagg atgcttttta ggagaacttc cttgaataag 27000
tattcatgtt tctgatttcc ctccattaaa gggaaaatcc aatgttttgg cttgggaatg 27060
gtacagcatg cttcggaaag gcagtactta ctcagaattt tcccttttcct gggctcaatt 27120
atgttacact tctctctagc ctcaaatatt ttattgggac ttcgagtttc tttcatttac 27180
atgcggttcc ttgattatac cacctggaca atctgacttg gtactctnnn nnnnnnnnn 27240
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 27300
nnnnnnnnnn nnnnnnnnnn nnnnnnnatc tatgcatcac catccctcct gggaggntgg 27360
gtaaaatggc atcctcctag tgatggtcaa agcaaggtcc cattggcttt tggttgccct 27420
gagagcgtag aaggacagtg tcacatttgc cctgttctga tcaggtacta tacctatctt 27480
gtctttagta tatttaattg cttcctctcc actaaactga tattattgtt tttttaatgt 27540
aaactttta ttaaattgta tatatagaaa tcttacatgt ttagctcagt gatatttcat 27600
aaagtgtcac agcgtaacca gcacccagtt cagcagcaga accttaccac agccccagtc 27660
actacaacct cctaccagtg gtaaccacta ttctggcttc taataccata agttagtttt 27720
gcctatattt aaactttata taaatagaat catatagtat atactttttt tgtttctgac 27780
ttctttcatg caacataaag ttgtggtttg ttatagtttt tccatcatat gaatataaca 27840
ccatttccat ctatccattc tgttaataca catatttgga ttgtttccag tttttgactg 27900
ttgaaaataa tgcttcaggc tgggtgcagt gactcgtgcc tgtaaaccta gcactttggg 27960
aggccaaggc aagtggatca cctgagttga ggagtttgat accagcctgg ccaacatggt 28020
gaaacccagt ctctactaaa aatacaaaaa attagccagg tgtggtggcg ggcgcctgta 28080
atcccagcta ctcgggaggc tgaggccgga gaattgcttg aacccaggag atggaggttg 28140
cagtgagcca agatcgtgcc actgcactcc agcctgggca acagaggaag actctgtctc 28200
aaaagaaaaa aaaaataata ataatgcttc agtgaacact cttctttgtg tcctttgaac 28260
atgtataacc attttttcttg ggagtatatc taggagtgga tttttaagtat accaatttat 28320
cctttcacca gcagtgtata agagtgctag atagttcata tccttatcaa acttggtatc 28380
cgtctcaaga aaaagaaaaa tgaaaaagaa tcccagggtc atgaagatac tatttgaagt 28440
gttttttttga atgattttaa aaaatcattc atatttagaa ttaatttatc tctaaacaga 28500
gcaaaaactg ttgcttttct tttccatggc agtggtgcag agcttagact cttagcttcc 28560
tacccacacc tagattcaac aaatgtaccc agggtaaaag caactgcaga agatagctca 28620
cctctgagat tttttttttt ctccctctct ggaattttac ccctctagt tcttgttttc 28680
ttagcattct ctgctgcctt taaaaagatg atttttatat tttatctggc ttttctgagt 28740
gttgtctgta gaactggctt gccgctattc catctctctt ggaagtagat atgatctttt 28800
taaacatgct caaatctctt ccattgaaag cataccaaat tcttggtcag tcctacattt 28860
tcttcctggt accttaaatc accacaacaa ttttgcctc tatacactaa ttttttttta 28920
atcttaatat cactaactcc agaggacatt tctggtcctg attttacctc atctcttaga 28980
cacatttcac tttgttgacc acttgctcct tcttgaaaca ctctctttct tcccttggca 29040
ctcgtgatac aacactatct tagtcttcct tctagctttc tggattttt tgtcctttgc 29100
tgactcatct tcttgttctg ccaatactgg gagttcctca agattcagat ctaggttgtc 29160
ttctcttttt actatgttat cttccttagt gatctcaaga tcatgccttc ggccgggcgc 29220
ggtggctcac gcgtgtaatc ccagcacttt gggaggccga ggcaggcgga tcatgaggtc 29280
aggagatcga gaccatcctg gctaacatgg tgaaacccca tctctactaa aaacatacaa 29340
aaaattaacc ggacatggtg gcgggcacct gtagtcccag ctactcagga ggctgaggca 29400
ggagaatggt gtgaacccgg gaggcggagc ttgcagtgag ccgagatcgt gccactgcac 29460
tccagcctgg gagacagagc gagactctgt ctcagaaaaa aaaaaaaaaa aaaaaaaagc 29520
```

```
atgccttcaa ctactacctg tacctaatta tcacacaaat ttgcatctcc atttcagact 29580
actcttttga gcatcgaacc atgaggccca tttgcttagt tgatatcctc actgagatga 29640
ccaaaaaact acttcagact caaaatgtct cacaaataat ttatggccta ttttatttt 29700
attttatttt tttatttatt tttctgagac ggagtcttgc tctgtcaccc aggctgtagt 29760
gcagtgggtg tgatctcgtc tcactgtaac ctctgcctcc caggttcaag tgattctcct 29820
gcctcagcct cccaagtagc tgggattaca ggcacatgcc accacaccca gctaattttt 29880
gtattttag tagatacggg gtttcaccat gttggccagg ctgttcttga actcctgacc 29940
tcgtgatcca cccacctgag cctcccaaag tgctgggatt acaggcgtaa gccaccgtgc 30000
ccggctggcc tattttatt acagaagctg gaaacttaaa agttatccat aaaaatttc 30060
ttttccctta ctcacacatg tagtctataa cttgagtccc ttaaatatct gtggaatcca 30120
tttgttttc tccgtctcaa caactcaccc atcttttttt tttttcttc tggatatgga 30180
gtctcactct gtcgcccagg ctggagtgca gtggcacaat ctcggctcac tacaagctcc 30240
acctcccggg ttcacgccat tctcctgcct cagcctccca agtagctggg actacaggcg 30300
cccgccacca tgcctggcta attttttgta tttttagtag agatggggtt tcaccatgtt 30360
aaccaggatg atctcaatct cctgacctca tgatccaccc gcctcggcct cccaaagtgc 30420
tgggattaca ggcgtgagcc accgcgcctg cgttcaccg tcttgttaa tctaggctac 30480
ccttatctcc tctggtaggt cagtctaatg accacattct ttccttacaa catgctcccc 30540
ttgctcttct ttttagctgc tatggccttt ctgttctca aacacatctt gctgtcttct 30600
agcagggtgc attttgcat gttgttccct ctgcctggaa tgctctctct caaactcccc 30660
ctctcctcta agtcctttgc tgtcatcaga tttcatttca atcattacct actcaagaat 30720
cctttcctga ctaggttttt atttcccatt ttatgctgtt attgttccat gaagttttct 30780
gttgtgtcat ttatcagcgt tgtaatttc acgatttta aaattagtcc ctatttagta 30840
agcactttga gagtaaggac cttatgtgtt tcctgtcatt attgtgttcc ctagcacctc 30900
atacactgcc tggcatctag taggcattca gtaaatattt gttgaatgca ctaatcattt 30960
ctctccctgc ccttagctga ggtgaaacgt gtcggagata cactcttggg aatggctacg 31020
cagtgtgtgc aggtgaagaa cgtggtcaag acctcacctc agactctgtc caacctctgc 31080
ctcaagatca atgtcaaact tggtggcatt aacaacatcc tagtcccaca ccagcggtat 31140
gaactctgtt gtccacttgc ccttgtcaag gtaccatgct gggaattgat gaagagatag 31200
gaccctggcc aggcagactg aatcagacat aaggggagag agagcagagt gggtactgga 31260
tggtgccagc tagagaagac ccagcgcctc accattttgt tttctcttcc ttgctcagct 31320
ctgccgtttt tcaacagcca gtgatattcc tgggagcaga tgttacacac cccccagcag 31380
gggatgggaa aaaaccttct atcacagcag tgagtgatat tctgtagctg cctcataagg 31440
ttctcctctt cgctctgagt cctcaaaact gcccatgatt ccttccctc agctctggct 31500
cttgagcctt cataagatgt ccatttagct cgctattccc aattcccatt cccttgatat 31560
ctcataaagg tagctctgta tggtgtcttt tttcagggag agtaatgaga gtgtagccag 31620
agacttgact cattctgcat cactcttgct ctgcatttga atgtctttct ttccccatgc 31680
ctgctttttgg gatgtagggg agggactata tcttctctga aatcccttta aagggagtta 31740
cttagttgcg aggactatcc tttgctctgc ccatcctcac cccgatctgt ataatagatt 31800
agatgtttct cttatctctc tcctgacttt tctgctcttt gtctcttagg ggcttccaaa 31860
ttgctaggga ttagaccttc tttcccactt atatttccta aaccctcaca tttctgtaag 31920
cacactggtc ttaacctcag taagtgcagg gaaaccctat aatatgctta tccctgtttt 31980
ccttgtggcc atccctccta ggctttggct gctgtctcct ttgtaaatgg catttcttcc 32040
atcaaccaca agaacactgt tactatggtc atgattcctg ggtagattag catttgaatg 32100
ggaaaaagga taaacttggg actggatgag gccattgttt gatttagtag tgctaaacct 32160
```

```
tcacatgctc ctctgcaaag gggagagaaa tcagtttatc aagtacctac tgtgggctac 32220
gtcctgtgta aggtgcttaa tatggacccc agtagcgctg caagcaggtg ttcttatcac 32280
catctgagaa gaggaaaaaa gatcagagag attgagtaac ttctgcttgt gtgatagaat 32340
agagattgaa accagggctc actgagtctc aagccctagt cattcagttg tagttttctt 32400
gctaagaagc ctttccacaa acccatagcc tgacagtgaa ggtgaaggtt ctaggagcta 32460
atcctttctc tctgactgtc aggtggtagg cagtatggat gcccacccca gccgatactg 32520
tgctactgtg cgggtacagc gaccacggca agagatcatt gaagacttgt cctacatggt 32580
gcgtgagctc ctcatccaat tctacaagtc cacccgtttc aagcctaccc gcatcatctt 32640
ctaccgagat ggggtgcctg aaggccagct accccaggta gggcccacag taggtggaga 32700
aaaccttcac atcatggctg gaaagctagg tgctactacc ttttctaagc tattggcact 32760
gagaggtgtg tcacttctta gtgagctttg ctaaatggag tagacttggg ggcaaggatc 32820
gcaactgagg gatggagtgt acaagcatct gtagattttt cttctcataa tagaagaccc 32880
tcactgccta tttaagtagt tggttcatgt tggagactga ttgtttagac cagtgattct 32940
caaatgctag cttacattaa gatcgcctgg agggcttgtt aaaacagttt taagggctct 33000
acccttagag tttctgattc agtgagtctt ggatgagggc caagaattta caatactgac 33060
aagttcttag gcgatgctga tagtctggag actacatttg aggactaatg ctgttgaccc 33120
tccttcataa tattcctcct attcattctc actgccagcc ttcattttttt ttttttaact 33180
tctatcctga actggtatcc ttgactacca tttaatagta ttataactac tgttccaatg 33240
aacttcctat gtgccatgaa ctgtcctaag cacttcactt tcttttttttt ttccctaaat 33300
ctgagtggaa acatatgttc tatttaatgc tttacaatag tcctttggaa taatagtgta 33360
tttccattta acagatgaga aaacaggctt ggaaatgtta catgatcttt aatgtcatca 33420
aagataatta ggagtggaac cgggattcag acacattggt ctgattccat agtttatgct 33480
cttaactgtt atgcccagtt tctttttttttc tttttttttgg ggggaacaga gtctcgctct 33540
tgcccagggt ggagcgcagt ggtgtgatct tagctcactg cagcttctgc ctcccgggct 33600
caagcgattc tctttcctca gcctcccaag tagctggggc tataggtatg agtcaccaca 33660
cccagcttat ttttgtattt ttagtagaga tggggtttca ctatgtcggc caggctggtc 33720
tcaaactcct gacctcaaat gatccacccg ccttggcctc ccaaagtgct ggaaatacag 33780
gcgtgagcca ccgtgcccgg ccattatgcc caatttctaa gtcatccagt attttctaaa 33840
ataacagaca catttatcat atcacatatc tgttcagaaa tgtctagtgg cttcacatag 33900
cttttgagtta aaattcaaac tgcttagcaa agcaatcagt agttattaag ccctactagg 33960
ttttctatgc ttttacttaa ttgtctatcg tagtcttctt aatagctttg tgaagcaggt 34020
cttagtaaca ttaacagacg tggagaaaat gagacttagt ggagttgaat aacttgcctg 34080
atgtaataca actagataaa gcttggattt aaatctaatt gattccaaag tctatccttc 34140
tctaccatac agttttgacc ctctgtatct gacatccacg gccacaggca actattgcct 34200
atgattattt acttctagct tttcccttag ctagcctgtt ttcttataat cctgctgctt 34260
tgcaggactg aattcaccta ctctctctgc acccattatg gaactatatg tctgctcttc 34320
tctggtggtc cacaacctgt ctgctcttgg agcccaaagg agaactctca ttagtcacct 34380
gatcctgtgt gaaactaact ttgggcattg tgattttagt gatttctctg tgaaccttgg 34440
ttctgtgtct tggtattagg tctctttata cacaggaacc agatgagtgt tgtcttctga 34500
tgccaagcct cctggccaag gtttttatagg agcatattaa gtgaactgag cataaggctg 34560
cttttgacaa gaagggcctg tcatctctaa ttgttgagca tcagcatata aagggagact 34620
gagccaaaag ttatattaca agtggcaact ccttagttca gaagggtatg tgaactcaag 34680
aggaactgtg tatttctttg tttccctccc cattttttttg tgcctagata ctccactatg 34740
agctactggc cattcgtgat gcctgcatca aactggaaaa ggactaccag cctgggatca 34800
```

```
cttatattgt ggtgcagaaa cgccatcaca cccgcctttt ctgtgctgac aagaatgagc 34860
gagtgagtga gggactgagg cctcccatcc cctccttctg tctcccttat cttaatagag 34920
aagaagccct tgagataaag gctgggggatt tagtccttgt cctatctatc ctccctggcc 34980
ccttccctcc tcctagctct tgtggtcctt cctctgccac cgccttcact agtgtccacc 35040
tcctcccgtc cttcccttat acttcctttc cctcctccta gctccctggc ctagacccca 35100
tatatagacc agctcctaga gaaggggaag ggaactacca tttattgaac tcctcctatg 35160
tgccagatac tgtacaaggc gtcttcctca cagcaaccct gtgaggtacg tattattatt 35220
atctccaatt taacctcaga aaggttaaac gacttgctaa gatcacacag ctaataggac 35280
ttgaacacag gtctgtgtga ctttagaagc atattatttt aagattcagt accctcaggg 35340
aatagcaact ttggctttgt tcttgggatt ttggtgaaat cagagtagaa ttgagccagg 35400
gtcctggtta gggccaggca ggtcttggga tcttggttgt gtttgtctct atacagattg 35460
ggaagagtgg taacatccca gctgggacca cagtggacac caacatcacc cacccatttg 35520
agtttgactt ctatctgtgc agccacgcag gcatccaggt agctgggctt tatcttgtgg 35580
ttccaatggg tcaaagatga gttgttcatt catattgcct ctagaatgta tcagtcatca 35640
ctgaatgaca tccaaattag gattgctctc ttttctgttt gttctgtttt gttttgtttt 35700
gaggcggagt ctcactctgt cccccaggct ggagtgcagt ggcacaattt cagctaactg 35760
caacctccac cttctgggtt taagcagtct tcctgccttc ccgcctcagc ctcccaagta 35820
gctgggatta caagcatgcg ccaccatgcc cagctaattt ttgtattttt agtagagaca 35880
gggtttcacc attttggccc tgctgttctt gaactcctga cctcaagtga tccacccacc 35940
ttggcctccc aaagtgctgg gattacaggc atgagccact gtgcccggcc aggactgctg 36000
tcgtaataag ccctgagtac acttgcaggt tgcttataag aagagtgctt tatgacattg 36060
gtagttttgc atctgcctgt tcatgggtga attatctacc cagccatatt cttaacagtg 36120
atcctgttcc cctattatca gccatcttct ctgcccagcc tgggacccct caccttccta 36180
tcttcccagg gcaccagccg accatcccat tactatgttc tttgggatga caaccgtttc 36240
acagcagatg agctccagat cctgacgtac cagctgtgcc acacttacgt acgatgcaca 36300
cgctctgtct ctatcccagc acctgcctac tatgcccgcc tggtggcttt ccgggcacga 36360
taccacctgg tggacaagga gcatgacagg tgaggcctgg gatcaggttg gcctcctttt 36420
tgcttcagcc tattgtgcca gatcttctta actttccttg ggtagaagga aatgagtgct 36480
gtccaatttg gtgtcattgg gctcgtctgc ccaatcctgg gttgggtttc tctcttaagt 36540
tggtatggga attggcatcc cagggctggg cgagggaatt agcagcagct ctcagttcac 36600
caggaaggac ttctttcatt ttttcctttt cagtggagag gggagccaca tatcggggca 36660
gagcaatggg cgggaccccc aggccctggc caaagccgtg caggttcacc aggatactct 36720
gcgcaccatg tacttcgctt gaaggcagaa cgctgttacc tcactggata gaagaaagct 36780
ttccaagccc caggagctgt gccacccaaa tccagaggaa gcaaggagga gggaggtggg 36840
gtagggagga gtgtaggatg ccttgtttcc ttctatagag gtggtgtaag agtggggaac 36900
agggccagca agacagacca ccagccagaa atctctgata tcaacctcat gtcccccacc 36960
cctcacccca tcttgtcaca tctggccctg accccactgg accaaaaggg gcagcactgg 37020
tgcccaccat acacacaggt gtctcatgtg actcacagtg ctaaagactc atgcttgaca 37080
gcttggtaag gtcaactctg tagccctgca gacaaaagct ggttaggttt gggtttgata 37140
ctttagatgg gaaagtgagg ggcttgagaa agtgggtggg aggaggggaag gatttttttag 37200
gagccttaat cagaaaagga ctagatttgt ttaagaagaa aaatgaaacc agacccagat 37260
caatatttta ggatactaga tgttttaatg ggttcagaat ccagtttgta ggaagatttt 37320
ttaatggttt tggttgctcc tcccccagct gccacccccc accttaccct tattcctctc 37380
tgtccacatt ttctgcccca ccttacttct cctccctgac agacatccag cccctagtaa 37440
```

```
tacttaaggc actatggcac ttagctttga agtgacacga ccctgtcttc cttccgcccg 37500
ctggtgggta accagtgcct tccctgtaac ggtaatgctg cagaactgca accttttgta 37560
cctttctttg gggaatgggg tggggtggg agaggaggta gatggggaag aaataccca 37620
gacccaacaa acctccagcc agaaagccag ctattttgca tttgaaggaa ttgacttcct 37680
cattcattga cttttaaa agatcacaac ctcaagatgg ttaaaatcca ttgacatttg 37740
cactttcaaa catgacaagt ctcggagctg ctgagatgac aggcccctgg cctttccact 37800
tatgcctcct tttctcctta ttcctcctac ctcccgcccc gcccaggtct ggagttactt 37860
tcatagcatt tttcactctt ggcttctttt ctcccttgat ggtcaagtct cttatgtttc 37920
aatatttctt aactggggtg tcttataaca aaaaactctt aggtctaaaa tgagaaaaaa 37980
gagagaaaac aaaatgttat ttttatacca taacttgagt gtattgccaa aatttggaaa 38040
tccttcccat gcctgatgag tttatatccc agaaacattg agccatcaga atgaactgtg 38100
tacctgattt gttctctgac ctggctaggt agggagggggg tggttatcgc cccaagatgg 38160
ggtccaggct ccatccttcc tctgtgcaga taataccttt ttcttgctat agcctccctc 38220
ctctgcactg tcctgcactc tttcttgcaa gtgcatcttt ttccttcccc tggactgtcc 38280
tctgacccct tggctcatcc tagattgcag tgtgtcctgt ggacaggctg gggaattttg 38340
ctgctcccta ttgcttctgt ttacaaaaat gaattttcc tggtttccca ctagggcatg 38400
tgggtgggtg gcatggactt tttttttttt ttttttttgt cttgagacat ggggtttggc 38460
tgtcttgcag gactggagaa ggtggtggtt ctagcttggt ctctgttggc cttgaagcaa 38520
gcatccccc tgcccttttt ccttgactgt tcattttttt cctgccccac tgcttgggat 38580
ggggagttgc aacttcagtg tggaatttcc tctttgagga gcctgggctt ggatctatcc 38640
tgatctggtg atgaagccat gattacttta gacctagccc aggcttggag gccagctgga 38700
ggaagaaggg tctaaatcct ggcctgtaga gttagaacta ccatttcctc cccttagctg 38760
cccttgtatg acccggattt gctatgcaaa acaatctatc ccaggttctg ttctggttgg 38820
ctacattgtt cagcaactca caaaacgtag cacaaacatt cattatggag aaagcatcag 38880
gactgttgag taactcctcc tttactttt tcctgctggc tacagcatgg ggtgccctat 38940
aggcacaagc ccagctgaag aacagaatgg agggctctgg gaggaggcag ctcactggag 39000
agcctacatt ccttacacaa gtgcctaaag agagtgatgc taacactcca tctgccctgt 39060
ccattgcctt catatacagt ctacttcgtg ttctgtcacc ctttggggag gggagttctc 39120
ctgggacagt gggctctgca tgttctccac ttggatacat tttgggcta ggatcaggc 39180
actattcctg gagggtccag tcattcacca gcatttgcaa atgtccatag ggagcaggtg 39240
gcagcctcta ctcccagcaa caagtttgtg ttctctcctt ttctctcttt gcctcactct 39300
ctccagttgg ttttcagctg gggcttgaaa tgcatttta gccctttgac gtggcttatg 39360
ccatcaaga aataaaaagc aagagaatca gctttgggca atgacaagaa atgagttctt 39420
actctgattt ttttgtaaaa agataatttt tgagacttga aaaatacccc gaccttgaga 39480
ttattcctgt ttgaaggtg gtgcatgcag atggagaagt ggtgttggca gcaagctttg 39540
gctcatgtgg atttggttta agtggtgctt cttacccaag cttcaaggaa gtgcttgggg 39600
gaccccagc ctcatcctct tagttgggtc tcttgttccc tttgtaccac tgttttgcct 39660
tccttttcct cttctctctt tgcctggctt cctttccctt ttcttctatt cactctgctt 39720
gcttgctggc cggcctgcct gcctgcctgc ctgcctgcct gcctgtctgc ctatgtgatg 39780
atgaaatctc tgcatggctg caatgatccc actgttagct ggcagggtca ggcttagctc 39840
cttgactgca gaagaccaag aacctgttcc ccaagcccag agatgtccac ctgggctgga 39900
ctgccctcaa gcttatacta gagaagagca actgacctgc ccaacttgtg tgaagtcagg 39960
agggtttctg gcattttcca cacctgtcca ctccttggag ctggtttctc tcattgcttt 40020
ttctaaatct ggttcttttt ctctttacct ggggcctggc ttttctgaga ttgtcttagg 40080
```

```
gttgagctat ttgggtatcc tgggtttgag tgttagggga tggacataaa ggaaaaagag 40140
tgatgagaag agaatggaga gaatttgaat aaaaggtggg aaaggagagc actgttcttt 40200
gattgtttat ccagtccaac ctgatccatt agggatcgag gtgctacact ggcctccagg 40260
gataagcctg gggctactgt tgctgggaac ttaggcttaa cataaagccg aagaaggtac 40320
ctagaaattt gaaacttccc taaaaagctc ctaatgccca cctgctagat agcttctctg 40380
tggcctccta tttagctaag cagcagtgtt tttggatact tttttttttct gtttgtgaat 40440
aaggccagca ctcaagatgg gcagccaagg gtgcactgac tattagctgg cccataggat 40500
atctgtaagg ctggtgggac agttttggac ctggaatcat gtgtaactaa caaggttgga 40560
cgtttcttcc ccatcagggt agaaaaatca tctcaaacta gccaaaaggc agttttggaa 40620
actacattgg gggacgttat ttttatttat atatggggcc taggccaatc caggatggta 40680
gctggaatac cttccttctt aaaatctgat catggcaggg atatgcaggg cactttttac 40740
tatttggcct tctaagcaga ttgggaagga ggtattttct ggttttcgct ttcctccgac 40800
ttaataggac ttgccttctc cctgggcagg gagagaggct gggttggtgc tctcccttac 40860
tctactcata ctgacttaga gcctctggct gctgtttggg catccaagaa agggagggga 40920
aggaatgagc taaaaacaaa acagaatgag gtgggaaagg gagattttct tctttacaga 40980
ggaaaatagg aaaccctcca agaattgtgc aagtaaagac atttgttgaa tgcactgagt 41040
cccttggtgt agtagcaata aggaaaaatg aaattacttt cctgtgcaca cagtccagcc 41100
taattggtat gtgatgttgc acttagcagc catgtggtgg gcatgtgtga ctactctggt 41160
tttcacttta gtttctaaac tttttatccc tctcaagtcc agcatggatg gggaaatgtc 41220
tctggatccc cacagctgtg tacttgtttg catttgtttc cctttgagat ttgtgtttgt 41280
gtcctgcttt gagctgtacc ttgtccagtc cattgtgaaa ttatcccagc agctgtaatg 41340
tacagttcct tctgaagcaa gcaacatcag cagcagcagc agcagcagca caattctgtg 41400
ttttataaag acaacagtgg cttctatttc taaagtgcgg tctttctctt ttttttttcct 41460
accagcaaaa caaacttttg ggactgatta catctctaat agatttttagg tgagaataat 41520
actgtagatt gttatgcagg aatacttcac agagccttca tttattcttc attcaacaaa 41580
catgcaaagc actgtgccag cagtattgtg gggaggggag gcacaattca aaatgaggaa 41640
aatagtgtcc gtctcattaa gggaattaag tttggtgggg gatatgatta gccaaatagt 41700
cccctggcat aggaggaaga taatgaggga gtggaataag gctacaacaa cgaatatagg 41760
gaggaaggga cagatttgag agacgaggta gaattaatag gactcgatgg ctggtgggag 41820
gagaagacag gagtagaggt tagctcccag gtttctcctt gaccatagga gtgtgttggg 41880
acattctgcc agtcaagatg ggggtgacgg ggagactgta gaaggaaggt ggggagtttt 41940
tgaagaaaca gaatgttgta tagactgagt tttgaggtgt ttgtggggca gtaagggtaa 42000
ggtgtccagt aaacacaggt tggtgctcag gtaagactgt aaaactgcat ttatagatac 42060
aggagtctta tagatggtag ttaaagccat aggcatgaat gagatagctt agaaaaagag 42120
aagagaaact agtatacagc cccctaagaa actcaattta aaggttcggg ggaggaagca 42180
gatcttaagg tgacagatca ctggtagaca gtttgtgggt tttttgtttc tttgtttagc 42240
cagtttggtg aggtaggaga agaaatcaga gtagaagaag gttcatgaag ggagtgatta 42300
acaacatgaa ctgctgcaga gagggagttc ttttttttttc tgtgtgtttt acctttctac 42360
tccccatctt ttggggatct tgtaactcta tgacttactt acgttattct ccagtatttc 42420
ttgaaaatga gcattggaaa aaccaattct aaaatggcta aaactaggac tttcaagttc 42480
accacaacta ccaccaatta                                             42500
```

<210> 11
<211> 20

<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 11
gagcctgcag cagctcccac   20

<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 12
ggagactgtg aagtccagcg   20

<210> 13
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 13
ctcaaagtaa ttggccagga   20

<210> 14
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 14
ttatccggct tgatgtccac   20

<210> 15
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 15
ccaccacttc ccggttgact   20

<210> 16
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 16
ttgtcacctc aaagtcgacc   20

<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 17
cttccccagg gattgtcacc   20

<210> 18
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 18
cacatccagg gcttgcacag   20

<210> 19
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 19
catggcaggg cgcacagact   20

<210> 20
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 20
agtggctgag acatcaatgt   20

<210> 21
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 21
ataaaaggca gtggctgaga   20

<210> 22
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 22
tgctcatcta tgttcctgat   20

<210> 23
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 23
caccttcagg cccttgatct   20

<210> 24
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 24
tgatggctag cagggcgacg   20

<210> 25
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 25
gtcagcttct taatacagcg   20

<210> 26
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 26
ctggttgtcg gtcagcttct   20

<210> 27
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 27
gatctcctcc tgtctgtctg   20

<210> 28

<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 28
gcattcttca tcaggcgact   20

<210> 29
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 29
ctccgtcatg tcatccttca   20

<210> 30
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 30
ctgattgggt gtggcaatgg   20

<210> 31
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 31
ctgtgaagtt cttgagcacc   20

<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 32
catccttgga aatcttccgc   20

<210> 33
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 33
caataatgag ctgcagccct   20

<210> 34
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 34
tcacctcagc atacaccggc   20

<210> 35
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 35
ctgcctacca ctgctgtgat   20

<210> 36
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 36
ctcttcccaa ttcgctcatt   20

<210> 37
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 37
tgcgtggctg cacagataga   20

<210> 38
<211> 20
<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 38
gtcggctggt gccctggatg   20

<210> 39
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 39
ttgctctgcc ccgatatgtg   20

<210> 40
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 40
cctggtgaac ctgcacggct   20

<210> 41
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 41
ctggatttgg gtggcacagc 20

<210> 42
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 42
caaggcatcc tacactcctc 20

<210> 43
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 43
tgagtcacat gagacacctg 20

<210> 44
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 44
ccaagctgtc aagcatgagt 20

<210> 45
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 45
accttaccaa gctgtcaagc   20

<210> 46
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 46
cccatctaaa gtatcaaacc   20

<210> 47
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 47
tggacagaga ggaataaggg   20

<210> 48
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 48
gctccgagac ttgtcatgtt   20

<210> 49
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 49
aatcaggtac acagttcatt   20

<210> 50
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 50
ctccctacct agccaggtca   20

<210> 51
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 51

agctagaacc accaccttct   20

<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 52
agattgtttt gcatagcaaa   20

<210> 53
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 53
aatgtagcca accagaacag   20

<210> 54
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 54
gtgctacgtt ttgtgagttg   20

<210> 55
<211> 20

<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 55
tagggcaccc catgctgtag   20

<210> 56
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 56
tcttcagctg ggcttgtgcc   20

<210> 57
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 57
aggcacttgt gtaaggaatg   20

<210> 58
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 58
tgtatccaag tggagaacat   20

<210> 59
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 59
tgcaaatgct ggtgaatgac   20

<210> 60
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 60
aggctgccac ctgctcccta   20

<210> 61
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 61
ctggagagag tgaggcaaag   20

```
<210> 62
<211> 20
<212> DNA
<213> Artificial Sequence


<220>


<223> Antisense Oligonucleotide


<400> 62
cccagctgaa aaccaactgg                                          20



<210> 63
<211> 20
<212> DNA
<213> Artificial Sequence


<220>


<223> Antisense Oligonucleotide


<400> 63
agctccaagg agtggacagg                                          20



<210> 64
<211> 20
<212> DNA
<213> Artificial Sequence


<220>


<223> Antisense Oligonucleotide


<400> 64
ttaggagctt tttagggaag                                          20



<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence
```

<220>

<223> Antisense Oligonucleotide

<400> 65
tatctagcag gtgggcatta 20

<210> 66
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 66
aagtatccaa aaacactgct 20

<210> 67
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 67
tacagatatc ctatgggcca 20

<210> 68
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 68
taagaaggaa ggtattccag   20

<210> 69
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 69
atagtaaaaa gtgccctgca   20

<210> 70
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 70
accagaaaat acctccttcc   20

<210> 71
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 71
gaagaaaatc tccctttccc   20

<210> 72

<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 72
tcctctgtaa agaagaaaat   20

<210> 73
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 73
gactcagtgc attcaacaaa   20

<210> 74
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 74
ctggactgtg tgcacaggaa   20

<210> 75
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 75
cacatggctg ctaagtgcaa   20

<210> 76
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 76
ccccatccat gctggacttg   20

<210> 77
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 77
gatgttgctt gcttcagaag   20

<210> 78
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 78
tgttgtcttt ataaaacaca   20

```
<210> 79
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 79
atttttcatc actccagagc                                          20


<210> 80
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 80
ggatagtacg caaggccacc                                          20


<210> 81
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 81
ctgcactcca gcctggacga                                          20


<210> 82
<211> 20
<212> DNA
```

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 82
aatataaata cacatttgcc   20

<210> 83
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 83
gaatgtattt aatgccacag   20

<210> 84
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 84
cagtgagcca agatcgtgcc   20

<210> 85
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 85
tcatcccaaa agaaatggac   20

<210> 86
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 86
caagcagctg attcctgtgc   20

<210> 87
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 87
acctggccca gcatagcctg   20

<210> 88
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 88
aggaggcttg gcatcagaag   20